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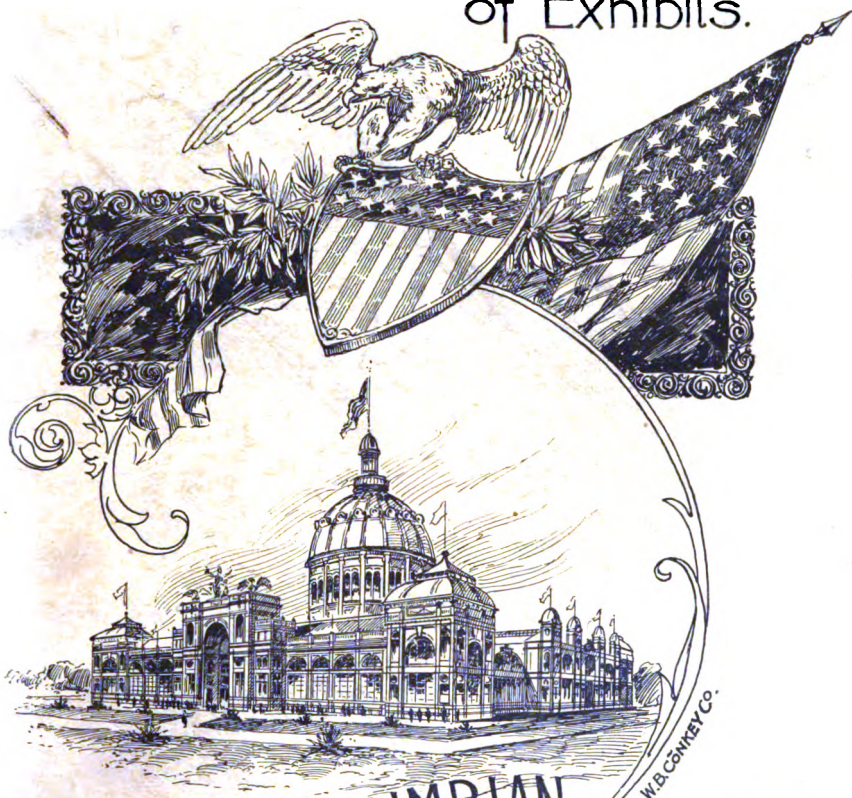
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U.S. GOVERNMENT BUILDING

PRICE, 25 CENTS.

1893

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CHICAGO.



MAP

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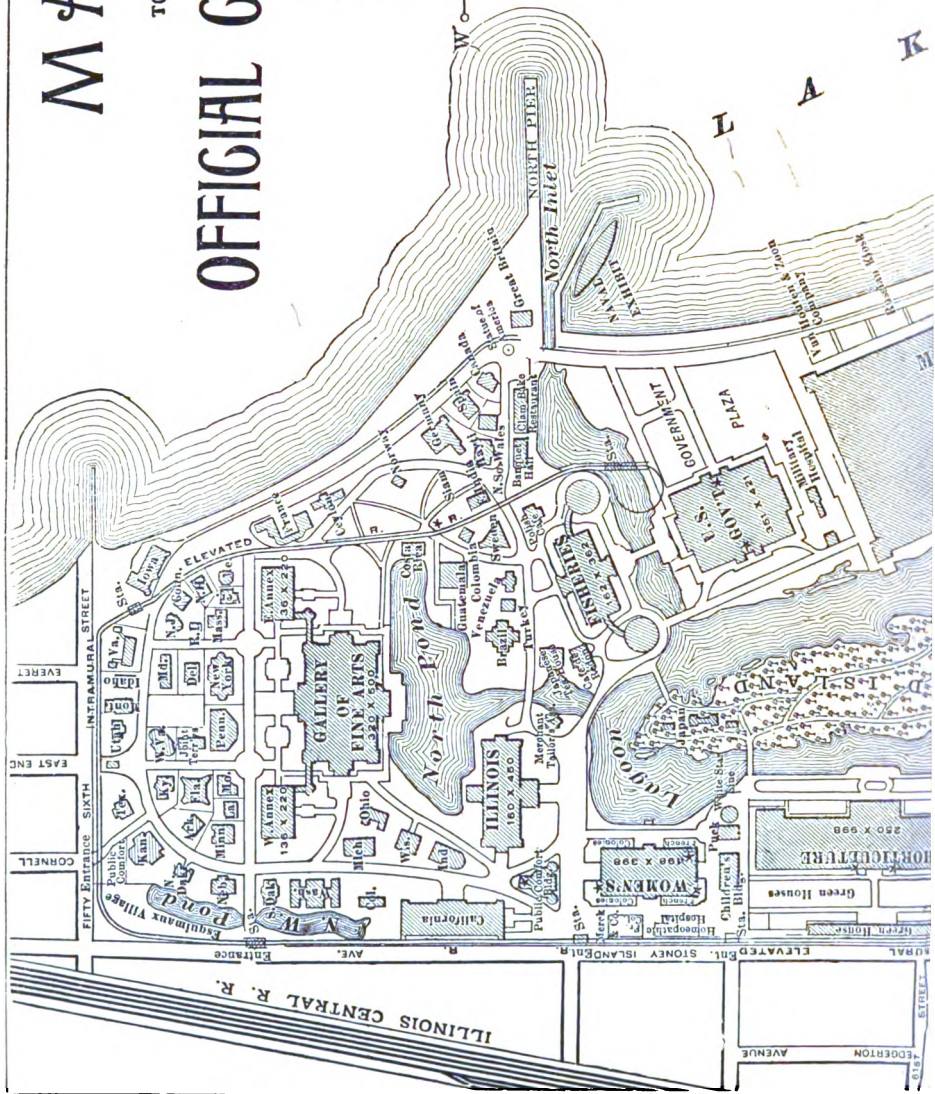
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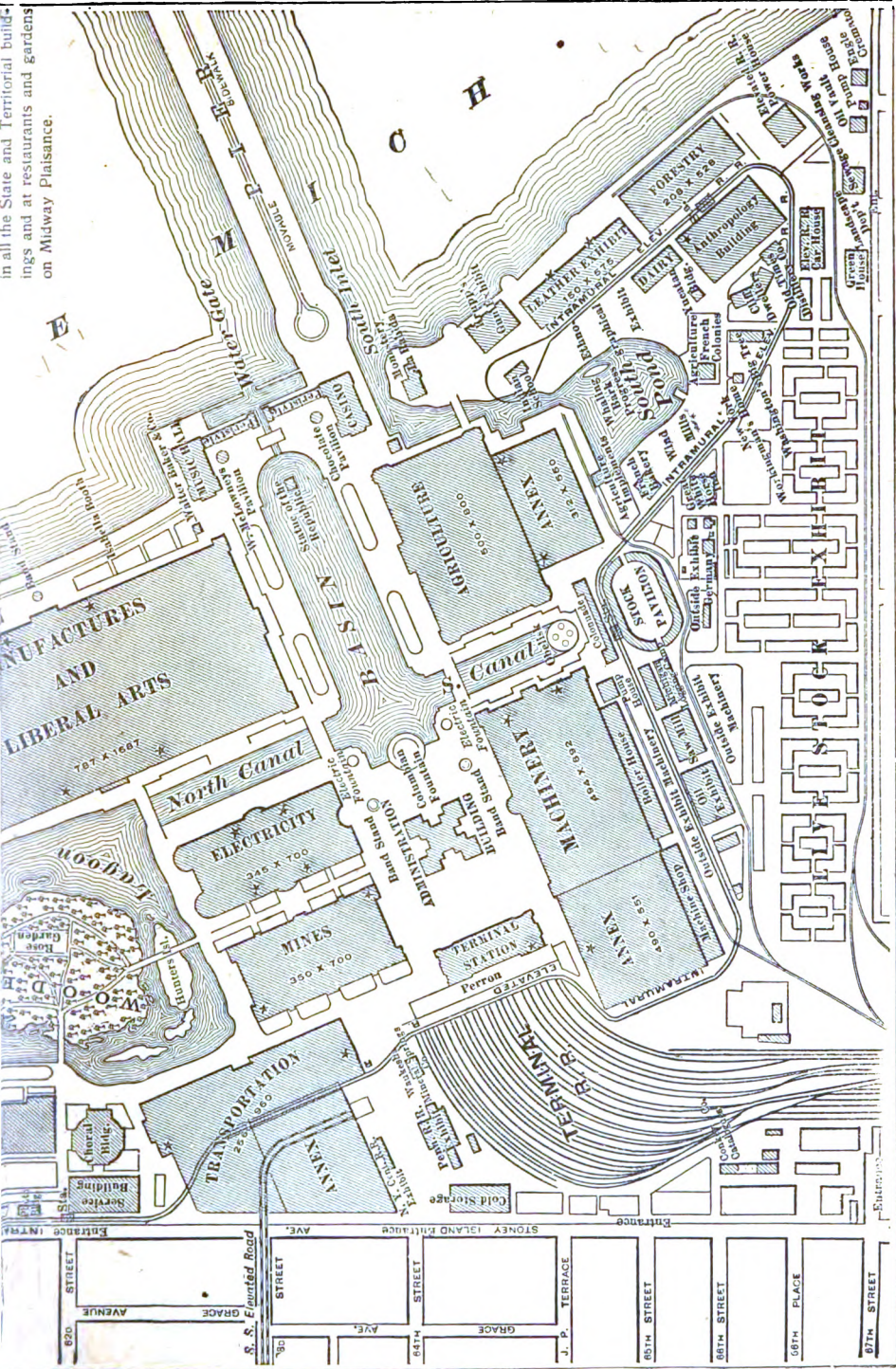
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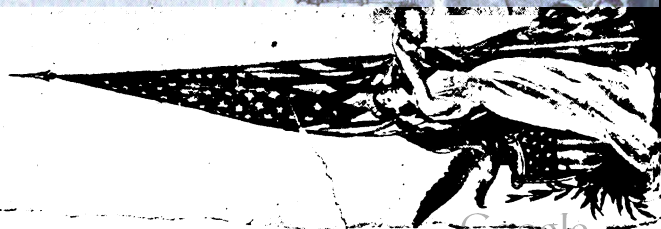
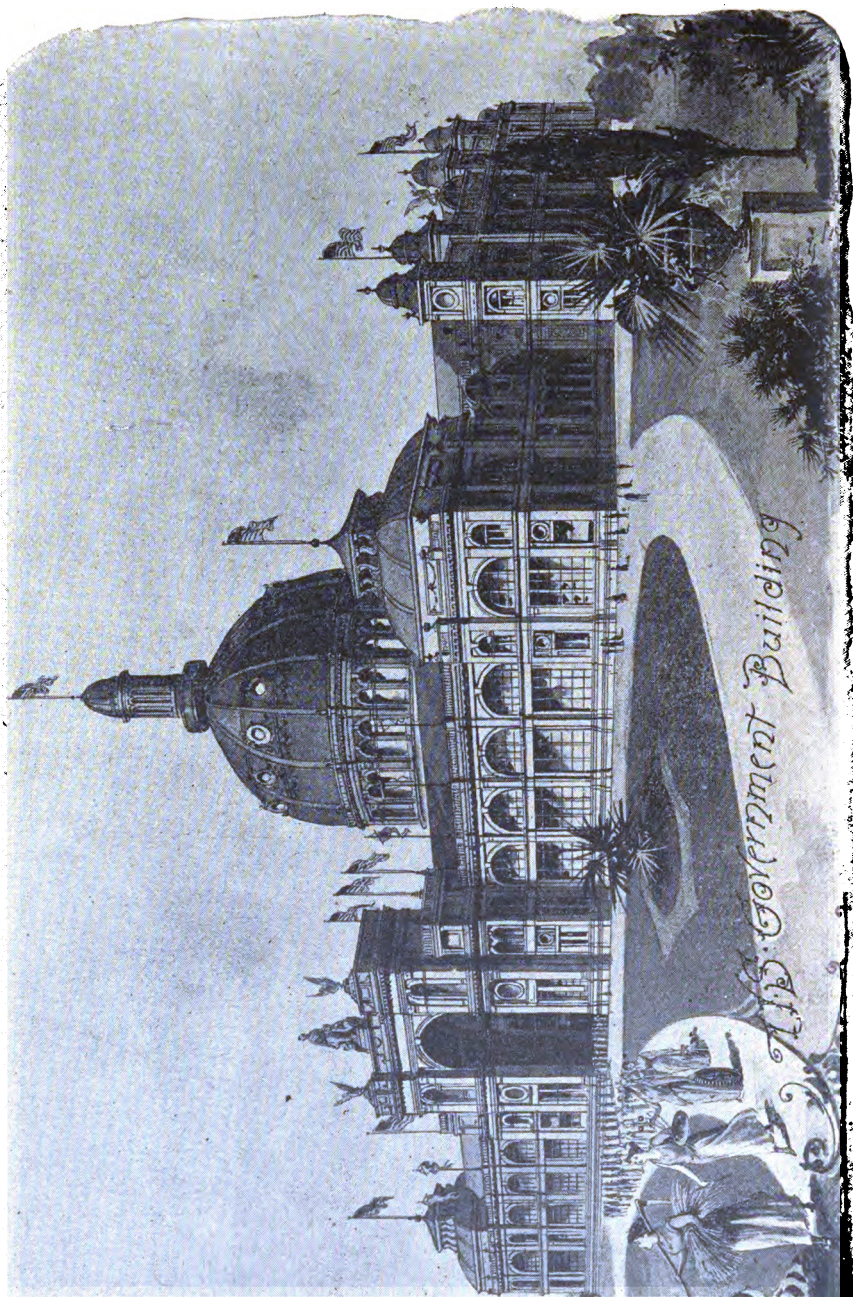
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on Midway Plaisance.





WORLD'S COLUMBIAN EXPOSITION

1893.

OFFICIAL CATALOGUE

UNITED STATES GOVERNMENT BUILDING

PART XVI.

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EDITED BY

THE DEPARTMENT OF PUBLICITY AND PROMOTION,

M. P. HANDY, CHIEF.

CHICAGO:
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CHICAGO

UNITED STATES GOVERNMENT BUILDING.

THIS structure is 420 feet long by 350 feet in width, its main floor covering an area of 157,500 square feet. Its galleries have an area of 33,500 square feet additional, making a total of 191,000 square feet of floor space. Of this area about 175,500 square feet are devoted to exhibit purposes and circulation and 16,500 square feet to offices and corridors.

The building was designed by the supervising architect of the treasury, and erected under his supervision. It is of "modern renaissance" architecture, the main feature being a central dome 120 feet in diameter, and 275 feet from the ground to the top of the flag pole. This dome is constructed of steel, and is supported on sixteen columns. The entire cost of the main building was \$325,000, or \$2.07 per square foot of its floor area, or three cents per foot of its cubic space.

The limit of cost for the Government Buildings at the World's Columbian Exposition was fixed by law at \$400,000. From the balance of the appropriation not consumed in the erection of the main building four auxiliary structures have been erected, specially adapted to the exhibits of the United States Naval Observatory, the United States Army Medical Department, and for the Weather and Indian Bureaus respectively.

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**FIRST FLOOR PLAN,
U.S. GOVERNMENT BUILDING,
WORLD'S COLUMBIAN EXPOSITION,
CHICAGO, 1893,
SHOWING DEPARTMENT AND BUREAU DIVISIONS.**

LAKI
SCALE: 20 FEET

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DIAGRAM NOTES.

An exhibit of the resources of Alaska is to be found in the north gallery, to be reached by the stairs near Post 7-R.

An exhibit of the supervising architect's office of the Treasury, and of postage stamps under the Postoffice Department, is to be found in the south gallery, and to be reached by the stairs at Post 7-B.

The commercial exhibit made by the Department of State is to be found in the east gallery, which may be reached by the stairs at Post 1-I and 1-K.

Exhibit of the Government of the United States.

The exhibit by the Government of the United States, catalogued in this volume, was authorized by the Act of Congress, approved April 25, 1890.

The sections governing the matter are as follows :

SECTION 16. That there shall be exhibited at said exposition by the Government of the United States, from its Executive Departments, the Smithsonian Institution, the United States Fish Commission and the National Museum, such articles and materials as illustrate the function and administrative faculty of the Government in time of peace, and its resources as a war power, tending to demonstrate the nature of our institutions and their adaption to the wants of the people; and to secure a complete and harmonious arrangement of such a Government exhibit, a board shall be created to be charged with the selection, preparation, arrangement, safe-keeping, and exhibition of such articles and materials as the heads of the several Departments, and the directors of the Smithsonian Institution and National Museum may respectively decide shall be embraced in said Government exhibit. The President may also designate additional articles for exhibition. Such board shall be composed of one person to be named by the head of each Executive Department, and one by the directors of the Smithsonian Institution and National Museum, and one by the Fish Commission, such selections to be approved by the President of the United States. The President shall name the chairman of said board, and the board itself shall select such other officers as it may deem necessary.

That the Secretary of the Treasury is hereby authorized and directed to place on exhibition, upon such grounds as shall be allotted for the purpose, one of the life-saving stations authorized to be constructed on the coast of the United States by existing law, and to cause the same to be fully equipped with

all apparatus, furniture and appliances now in use in all life-saving stations in the United States, said building and apparatus to be removed at the close of the exhibition and re-erected at the place now authorized by law.

SEC. 17. That the Secretary of the Treasury shall cause a suitable building or buildings to be erected on the site selected for the World's Columbian Exposition for the government exhibits, as provided in this act, and he is hereby authorized and directed to contract therefor, in the same manner and under the same regulations as for other public buildings of the United States; but the contracts for said building or buildings shall not exceed the sum of four hundred thousand dollars, and for the remainder of the fiscal year and for the fiscal year ending June thirtieth, eighteen hundred and ninety-one, there is hereby appropriated for said building or buildings, out of any money in the treasury not otherwise appropriated, the sum of one hundred thousand dollars. The Secretary of the Treasury shall cause the said building or buildings to be constructed, as far as possible, of iron, steel and glass, or of such other material as may be taken out and sold to the best advantage; and he is authorized and required to dispose of such building or buildings, or the material composing the same, at the close of the exposition, giving preference to the city of Chicago, or to the said World's Exposition of eighteen hundred and ninety-two, to purchase the same at an appraised value, to be ascertained in such manner as he may determine.

SEC. 18. That for the purpose of paying the expenses of transportation, care and custody of exhibits by the government and the maintenance of the building or buildings hereinbefore provided for, and the safe return of articles belonging to the said government exhibit, and for the expenses of the commission created by this act, and other contingent expenses, to be approved by the Secretary of the Treasury, upon itemized accounts and vouchers, there is hereby appropriated for the remainder of this fiscal year and for the fiscal year ending June thirtieth, eighteen hundred and ninety-one, out of any money in the treasury not otherwise appropriated, the sum of two hundred thousand dollars, or so much thereof as may be necessary: *Provided*, That the United States shall not be liable, on account of the erection of buildings, expenses of the commission or any of its officers or employees, or on account of any expenses incident to or growing out of said exposition for a sum exceeding in the aggregate one million five hundred thousand dollars.

In compliance with the provisions embodied in Section 16 above quoted, the President, by executive order of August 19, 1890, appointed a "Board of Control and Management of the Government Exhibit at the World's Columbian Exhibition," composed as follows:

Sevellon A. Brown, Chief Clerk, Department of State.

A. B. Nettleton, Assistant Secretary, Treasury Department.

Major Clifton Comly, United States Army, War Department.

Captain R. W. Meade, United States Navy, Navy Department.

A. D. Hazen, Third Assistant Postmaster General, Postoffice Department.
H. A. Taylor, Commissioner of Railroads, Department of the Interior.
E. C. Foster, General Agent, Department of Justice.
Edwin Willits, Assistant Secretary, Department of Agriculture.
G. Brown Goode, Assistant Secretary, Smithsonian Institution and National Museum.
J. W. Collins, Assistant, United States Fish Commission:

And further the President, by the same order, designated Honorable Edwin Willits to be the Chairman of said Board. This Board held its first regular meeting on the 3d of September, 1890, and completed its organization by the election of Mr. F. T. Bickford as Secretary.

A study of the law, with a view to the development of the powers conferred, and duties and limitations imposed upon the Board, disclosed many features which were susceptible of more than one interpretation; and recourse was had to the law officers of the Treasury for guidance.

Under the provision of Section 18, which subjects the "itemized accounts and vouchers" to the approval of the Secretary of the Treasury, jurisdiction in detail over the affairs of the Board was assumed by officials of that department, and their rulings have formed, of necessity, the dominant standard of judgment. By virtue of an early ruling based upon the provision of Section 16, which empowers the heads of the Executive Departments, and the directors of the Smithsonian Institution and National Museum, and of the United States Fish Commission, to designate the articles which should compose the contributions of their respective branches, the initiative in respect to each article exhibited was vested in the heads of the branches, while the power of final approval being retained in the Treasury, the Board of Management served as an intermediary between the two authorities.

The exhibit of the government, prepared in accordance with the terms of the law, consists of "articles and materials," illustrative of the functions of the government; and while no branch of the government has been excluded by any authoritative act, yet in consideration of the limitations of space and money, preference has been given to those branches whose functions were

found to be most susceptible of illustration by "articles and materials," as distinguished from those whose jurisdiction covered facts, processes, and, in general terms, information. Thus it is that many of the sub-branches of the government, as for example, the accounting, auditing, law, diplomatic, financial and statistical offices are represented by small exhibits, or by none at all; these having an advantage over their fellows in the fact that their operations are made accessible to the public in annual reports and special bulletins.

The retirement from public life of some of the officials originally designated to comprise the Board of Control and Management has given rise to certain changes; and the board, as it exists at the date hereof, is composed as indicated on the title page of this volume.

Washington, D. C., April 12, 1893.

THE EXECUTIVE MANSION AND DEPARTMENT OF STATE.

EXECUTIVE MANSION.

Exhibit
No.

1. **Portrait of Grover Cleveland, twenty-fourth President of the United States.**
2. **Photograph of the executive mansion at Washington.**
3. **Workings of the President's office.** Blank form of nomination to the Senate. Seal of the President's office. Engraved blanks for official entertainments by the President. Blank forms for referring communications to the executive departments. Samples of stationery used in the President's office. Blank warrant authorizing the Secretary of State to affix the seal of the United States to executive instruments. Blank commissions for appointment of cabinet officers, diplomatic officers and others.

DEPARTMENT OF STATE.

1. **Workings of the Diplomatic Bureau.** Sample written instructions to diplomatic officers of the United States, and sample notes to diplomatic officers accredited to the Government of the United States. Sample letters from the President of the United States to the head of a foreign government, accrediting ambassadors or ministers, and recalling them.
2. **Workings of the Consular Bureau.** Circular instructions to consuls of the United States. Written instructions to consuls. Sample dispatch from a consul to the home government. Consular regulations which govern the consular corps.
3. **Workings of the Bureau of Statistics.** Circular instructions to consuls to prepare trade reports. Sample publications of consular reports, both regular and special.
4. **Workings of the Bureau of Accounts.** Sample blanks for salary and contingent accounts of diplomatic and consular officers of the United States. Sample letters written in the bureau. Volume of old accounts. Circulars relating to the sale of the volumes and pamphlets of United States laws.

Exhibit
No.

5. **Workings of the Bureau of Indexes and Archives.** Sample index cards showing index system. Sample sheets illustrating the method of indexing incoming and outgoing mails. Blank requisitions for printing by the Government Printing Office.
6. **Workings of the Bureau of Rolls and Library.** Sample circulars relating to search among historical archives for information. Blanks relating to distribution of publications of the Department of State. Sample letters written in the bureau. Proof of bills and laws, showing method of preparing the laws of the United States for printing.
7. **Workings of the Bureau of Commissions and Pardon.** Blank authorizing the affixing of the seal of the United States to executive instruments. Sample of warrant of pardon issued by the President to an offender against the laws of the United States. Blank form of exequatur recognizing the consular representative of a foreign power. Blank oath of allegiance and of office. Blank warrant of extradition surrendering a criminal who has fled to the United States from the jurisdiction of a foreign government; calling upon a foreign government to surrender a fugitive from the justice of the United States; to apprehend and examine a fugitive from the justice of a foreign power. (See also under workings of the President's office.)
8. **Workings of the Passport Bureau.** Blank forms of passports issued to citizens of the United States proceeding abroad. Circulars of instruction relative to passports. Blanks illustrating the authentication of official papers under the seal of the Department of State.
9. **Publications of the Department of State.** Sample volumes of various publications issued under the authority of the Department of State at the present day and in the past.
10. **The Seal of the United States.** The obverse, which is the legal representation of the national coat of arms, emblazoned in oils according to the provision of the Act of Congress creating it.
11. **The development of the Seal of the United States.** Illustrations reproduced from the manuscript reports of committees of the Continental Congress showing the various designs submitted; also the emblazoned obverse and reverse.
12. **Letters from heads of Foreign Governments to the President of the United States.**
 1. Louis, King of France, acknowledging receipt of the letter recalling Thomas Jefferson as Minister to France. December 11, 1790.
 2. Louis, King of France, recalling M. Moustier as Minister to the United States.
 3. Representatives of the French people (Robespierre and others) conveying information of the formation of the French republic. Second year of the Republic.

Exhibit
No.

4. Representatives of the French people (Robespierre and others) accrediting a new Minister to the United States. Second year of the Republic.
5. Executive Provisional Council of France accrediting Fouchet as Minister to the United States. Second year of the Republic.
6. Representatives of the French people accrediting Adet as Minister to the United States. Third year of the Republic.
7. Napoleon Bonaparte announcing the marriage of Prince Eugene. February 7, 1806.
8. Napoleon Bonaparte announcing the birth of a Princess. March 30, 1809.
9. Napoleon Bonaparte announcing his marriage to the Princess Marie Louise. April 5, 1810.
10. Jerome Napoleon, King of Westphalia, announcing his accession to the throne. January 12, 1808.
11. Carnot, President of the French Republic, announcing his accession to office. December 8, 1887.
12. Victoria, Queen of England and Empress of India, announcing the birth of a Prince. November 30, 1888.
13. Alexander I, Czar of Russia, recalling Mr. Dashkoff, Minister to the United States. June 17, 1817.
14. Alexander III, Czar of Russia, recalling Mr. de Struve, Minister to the United States. August 11, 1892.
15. Christian VII, King of Denmark, recalling Mr. Oleson, Minister Resident and Consul-General to the United States. April 5, 1805.
16. Maria, Queen of Portugal, expressing friendship for the United States. August 2, 1787.
17. Charles, King of Portugal, announcing the birth of a Prince. December 19, 1889.
18. Louis Napoleon, King of Holland, announcing his accession to the throne. September 20, 1806.
19. William, King of Holland announcing the marriage of a Prince. March 6, 1816.
20. Emma, Queen Regent of the Netherlands, accrediting Mr. von Weckerlin as Minister to the United States. December 24, 1890.
21. Alphonzo XIII, King of Spain through Maria Christina, accrediting Mr. Muruaga as Minister to the United States. January 12, 1893.
22. George I, King of Greece, announcing the birth of a Prince. September 9, 1879.
23. Leopold, King of Belgium, announcing the death of a Prince. January 29, 1891.
24. Oscar II, King of Sweden and Norway, recalling Minister Reuterskiold, Minister to the United States. October 9, 1888.

Exhibit
No.

25. Humbert I, King of Italy, announcing the death of a Prince. January 29, 1890.
26. President of the Swiss Confederation acknowledging the credentials of Mr. Cheney as Minister of the United States. January 29, 1893.
27. Francis Joseph, Emperor of Austria and King of Hungary, announcing the marriage of a Prince. January 27, 1893.
28. William I, Emperor of Germany and King of Prussia, announcing the recall of Mr. von Alvensleben, Minister to the United States. January 26, 1888.
25. William II, Emperor of Germany and King of Prussia, announcing his accession to the throne.
30. Miguel Antonio Caro, Vice-President of the Republic of Colombia, announcing his election to office. August 29, 1892.
31. Luis Saenz Peña, President of the Argentine Republic, announcing his accession to office. October 10, 1892.
32. Porfirio Diaz, President of the United States of Mexico, announcing his re-election to office. December 1, 1892.
33. Mariano Baptista, President of Bolivia, announcing his accession to office. August 16, 1892.
34. Manoel Deodoro da Fonseca, Chief Provisional Government of Brazil, acknowledging recall of Mr. Adams, Minister of the United States. December 27, 1890.
35. Barnardo Soto, President of Costa Rica, expressing thanks for the services of the President of the United States as arbitrator of boundary dispute between Costa Rica and Nicaragua. April 21, 1888.
36. Luis Cordero, President of Ecuador, announcing his accession to office. July 1, 1892.
37. Jorge Montt, President of Chile, announcing his accession to office. December 26, 1891.
38. J. James Cheeseman, President of Liberia, announcing his accession to office. February 15, 1892.
39. Carlos Ezeta, President of Salvador, accrediting Dr. Morales as Minister to the United States. December 24, 1891.
40. Joaquin Crespo, President of Venezuela, accrediting Mr. Bustamente as Minister to the United States. November 1, 1892.
41. Maximo Fajes, President of the Oriental Republic of Uruguay, acknowledging letter accrediting Mr. Bacon as Minister of the United States. November 12, 1889.
42. Manuel L. Barillas, President of Guatemala, accrediting Mr. Batres as Minister to the United States. March 23, 1891.
43. Alexander Petion, President of Hayti, thanking the President for the return of Haytians in the United States vessel to their native land. January 29, 1809.

Exhibit
No.

44. Emperor and Empress of Brazil relative to recall of Mr. Hilliard as Minister of the United States. January 14, 1882.
45. Ahmet Caramalli, Bey of Tripoli, thanking the President for reinstating him on the throne.
46. Sultan of Zanzibar acknowledging the President's letter of friendship. January 19, 1884.
47. Kalakaua, King of Hawaii, announcing the death of a Princess. February 4, 1887.
48. Liliuokalani, Queen of Hawaii, accrediting Mr. Mott Smith as Minister to the United States. January 28, 1892.
49. Toorkey bin Said, Sultan of Maskat, congratulating President Cleveland on his accession to office. May 10, 1885.
50. Chulalongkorn, King of Siam, announcing recall of Minister of Siam to the United States. May 5, 1887.
51. Ranavalomaniaka, Queen of Madagascar, credentials of her envoys to the United States. July 19, 1882.
52. The Shah of Persia, acknowledging letter recalling Mr. Pratt as Minister to the United States.
53. Credentials of the Chinese minister.
13. **The several buildings occupied by the Department of Foreign Affairs and the Department of State from 1781 to the present day.**
 1. No. 13 South Sixth street, Philadelphia. October, 1781, to June, 1783.
 2. Broad and Pearl streets, New York City. January, 1785, to May, 1788.
 3. Fifth and Chestnut streets, Philadelphia. August, 1798, to May, 1800.
 4. State House at Trenton, New Jersey. August 15 to November 15, 1798.
 5. Seventeenth street, Washington. May, 1801, to August, 1814, and April, 1816, to December, 1819.
 6. G street, Washington. September, 1814, to April, 1816.
 7. Pennsylvania avenue and Fifteenth street, Washington. January, 1820, to October, 1866.
 8. Fourteenth and S streets, Washington. October, 1866, to July, 1875.
 9. Building now occupied, Washington. July, 1875.
14. **Site of the City of Washington when it was adopted as the seat of government.**

Plan of the Capital City as originally submitted to Congress.
15. **Old form of ship's manifest formerly used in the United States and issued by the Department of State.**
16. **Wash drawings of the Secretaries of Foreign Affairs and Secretaries of State, 1781 to 1893.**
 1. Robert R. Livingston, New York. Elected by Congress, Secretary for Foreign Affairs, September 23, 1781.

Exhibit
No.

2. John Jay, New York. Elected Secretary for Foreign Affairs, September 21, 1784. Served by continuance as Secretary of State, until the appointment of Thomas Jefferson.
3. Thomas Jefferson, Virginia. Appointed Secretary of State September 26, 1789.
4. Edmund Randolph, Virginia. Appointed January 2, 1794.
5. Timothy Pickering, Pennsylvania. Appointed December 10, 1795.
6. John Marshall, Virginia. Appointed May 13, 1800.
7. James Madison, Virginia. Appointed March 5, 1801.
8. Robert Smith, Maryland. Appointed March 6, 1809.
9. James Monroe, Virginia. Appointed April 2, 1811.
10. John Quincy Adams, Massachusetts. Appointed March 5, 1817.
11. Henry Clay, Kentucky. Appointed March 7, 1825.
12. Martin Van Buren, New York. Appointed March 6, 1829.
13. Edward Livingston, Louisiana. Appointed May 24, 1831.
14. Louis McLane, Delaware. Appointed May 29, 1833.
15. John Forsyth, Georgia. Appointed June 27, 1834.
16. Daniel Webster, Massachusetts. Appointed March 5, 1841. July 22, 1850.
17. Hugh S. Legare, South Carolina. Appointed May 9, 1843.
18. Abel P. Upshur, Virginia. Appointed July 24, 1843.
19. John Nelson, Maryland (Acting). Appointed February 29, 1844.
20. John C. Calhoun, South Carolina. Appointed March 6, 1844.
21. James Buchanan, Pennsylvania. Appointed March 6, 1845.
22. John M. Clayton, Delaware. Appointed March 7, 1849.
23. Edward Everett, Massachusetts. Appointed November 6, 1852.
24. William L. Marcy, New York. Appointed March 7, 1853.
25. Louis Cass, Michigan. Appointed March 6, 1857.
26. Jeremiah S. Black, Pennsylvania. Appointed December 17, 1860.
27. William H. Seward, New York. Appointed March 5, 1861.
28. Elihu B. Washburne, Illinois. Appointed March 5, 1869.
29. Hamilton Fish, New York. Appointed March 11, 1869.
30. William M. Evarts, New York. Appointed March 12, 1877.
31. James G. Blaine, Maine. Appointed March 5, 1881. March 5, 1889.
32. Frederick T. Frelinghuysen, New Jersey. Appointed December 12, 1881.
33. Thomas F. Bayard, Delaware. Appointed March 6, 1885.
34. John W. Foster, Indiana. Appointed June 29, 1892.
35. Walter Q. Gresham, Illinois. Appointed March 6, 1893.
17. Presentation to the United States of the statue by Bartholdi of Liberty Enlightening the World now standing in the harbor of the City of New York.
 1. Original deed of gift to the United States.
 2. Acceptance of the gift.
18. Maps showing the growth of the diplomatic and consular representation of the United States in foreign countries.

Exhibit
No.

1. Map showing the diplomatic representation of the United States in 1776.
 2. Map showing the diplomatic and consular representation of the United States in 1800.
 3. Map showing the diplomatic and consular representation of the United States in 1840.
 4. Map showing the diplomatic and consular representation of the United States in 1880.
 5. Map showing the diplomatic and consular representation of the United States in 1892.
19. **Maps showing the expansion of the territory of the United States under Treaty Provisions.**
1. Territory of the United States in 1789. The Preliminary Treaty of Peace with Great Britain, signed at Paris, November 30, 1782, with a separate article relative to the boundary of the United States, was followed September 3, 1783, by the Definitive Treaty of Peace, Article II of which defined the boundary line. It was signed at Paris by John Adams, Benjamin Franklin and John Jay acting for the United States, and by D. Hartley for Great Britain. This map shows what was considered to be the actual territory of the United States when the Constitution was adopted.
 2. Territory of the United States in 1803. On April 30, 1803, was signed at Paris the treaty for the cession of Louisiana to the United States. The plenipotentiaries on the part of the United States being Robert R. Livingston and James Monroe, and the plenipotentiary on the part of France was Barbe Marbois. By a convention concluded the same day the United States agreed to pay sixty million francs for the newly acquired territory.
 3. Territory of the United States in 1821. On February 22, 1819, was concluded at Washington a treaty with Spain, by Article II, of which the territory then known as East and West Florida was ceded to the United States. The negotiators of the treaty were John Quincy Adams, Secretary of State, on the part of the United States, and Luis de Onis, plenipotentiary of Spain, on the part of Spain.
 4. Territory of the United States in 1845. (Texas annexation.)
 5. Territory of the United States in 1848. On February 2, 1848, was concluded the "Treaty of Friendship, Limits and Settlement" between the United States and Mexico, which terminated the war between the two countries, and the fifth article of which defined the boundary line. It was signed at the city of Guadeloupe Hidalgo by N. P. Trist, plenipotentiary on the part of the United States, and by Luis G. Cuevas, Bernardo Couto and Migl. Atristain, plenipotentiaries on the part of Mexico.

**Exhibit
No.**

6. Territory of the United States in 1853. On December 30, 1853, an additional treaty relative to the boundary with Mexico was concluded at Mexico, being signed by James Gadsden, plenipotentiary on behalf of the United States, and Manuel Diez de Bonilla, Jose Salazar Ylarregui and J. Mariano Monterde, plenipotentiaries on the part of Mexico.
7. Territory of the United States in 1867. On March 30, 1867, was concluded at Washington a convention for the cession of the Russian possessions in North America to the United States for the sum of \$7,200,000. The negotiator on the part of the United States was William H. Seward, Secretary of State, and on the part of Russia Edouard de Stoeckl, Russian minister to the United States.
20. Exchange copy (original) of treaty of cession of Louisiana by the French government. April 30, 1803. Convention for payment by the United States of sixty million francs for the territory acquired. April 30, 1803.
21. Writings of Robert R. Livingston, who negotiated the treaty on the part of the United States.
22. Writings of James Monroe, who was joint negotiator with Livingston on the part of the United States.
23. Portrait of Barbé Marbois, negotiator on the part of France.
24. Letter of Napoleon Bonaparte, under whose government the treaty was made.
25. Exchange copy (original) of treaty of peace, boundary, and for regulation of the slave trade, which terminated the War of 1812 (Treaty of Ghent). December 24, 1814.
27. Portrait of John Quincy Adams, one of the plenipotentiaries of the United States who negotiated the treaty.
28. Portrait of Henry Clay, one of the plenipotentiaries of the United States who negotiated the treaty.
29. Exchange copy (original) of treaty with Spain for cession of Florida.
30. Exchange copy (original) of treaty with Great Britain relative to boundary, slave trade and extradition. This fixed the northeast boundary of the United States and was negotiated by Daniel Webster, Secretary of State, on the part of the United States, and by Lord Ashburton, British minister to the United States.
31. Portrait of Daniel Webster.
32. Portrait of Lord Ashburton.
33. Exchange copy (original) of the treaty with Russia providing for cession to the United States of Russian possessions in America (Alaska). This treaty sold Alaska to the United States for \$7,200,000.
34. Portrait of William H. Seward Secretary of State, who negotiated the treaty on the part of the United States.

Exhibit
No.

35. Treaties with Foreign Powers.

(Original exchange copies.)

1. Argentine Republic. Free navigation of the rivers Parana and Uruguay. July 10, 1853.
2. Austria. Trade marks. November 25, 1871.
3. Belgium. Commerce and navigation. November 10, 1846.
4. Bolivia. Friendship, commerce and navigation. May 13, 1858.
5. Brazil. Friendship, commerce and navigation. December 12, 1828.
6. Chile. Arbitration of Macedonian claims. November 10, 1858.
7. China. Commercial intercourse and judicial procedure. November 17, 1880.
8. Costa Rica. Amity, commerce and navigation. July 10, 1851.
9. Denmark. Deserters. July 11, 1861.
10. Ecuador. Friendship, navigation and commerce. July 13, 1839.
11. Germany. Consuls and trademarks. December 11, 1871.
12. Guatemala. Amity, commerce and navigation. March 3, 1849.
13. Hayti. Commerce, navigation and extradition. November 3, 1864.
14. Honduras. Friendship, commerce and navigation July 4, 1864.
15. Italy. Commerce and navigation. February 26, 1871.
16. Japan. Amity and commerce. July 29, 1858.
17. Mexico. Boundary. July 29, 1882.
18. Morocco. Amity and commerce. January 7, 1877.
19. Muscat. Amity and commerce. December 21, 1833.
20. New Granada. Consuls. May 4, 1850.
21. Nicaragua. Friendship, commerce and navigation. June 21, 1867.
22. Ottoman Empire. Commerce and navigation. February 25, 1862.
23. Peru. Rights of neutrals at sea. July 22, 1856.
24. Portugal. Commerce and navigation. August 26, 1840.
25. Roumania. Consuls. June 17, 1881.
26. San Salvador. Amity, navigation and commerce. January 2, 1850.
27. Siam. Liquor traffic. May 14, 1884.
28. Sweden and Norway. Amity and commerce. September 4, 1816.
29. Swiss Confederation. Droit d'aubaine and taxes on emigration. May 14, 1847.
30. Venezuela. Friendship, commerce and navigation. January 20, 1836.

36. Oil portraits of Secretaries of State. (Such additional portraits as are in possession of the department.)

1. John Marshall, Virginia. 1800. John Adams' administration.
2. Martin Van Buren, New York. 1829-31. Jackson's administration.
3. Louis McLane, Delaware. 1833-34. Jackson's administration.
4. John Forsyth, Georgia. 1834-41. Jackson's and Van Buren's administrations.
5. Abel P. Upshur, Virginia. 1843-44. Tyler's administration.

**Exhibit
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6. James Buchanan, Pennsylvania. 1845-49. Polk's administration.
 7. John M. Clayton, Delaware. 1849-50. Taylor's and Fillmore's administrations.
 8. Edward Everett, Massachusetts. 1852-53. Fillmore's administration.
 9. William L. Marcy, New York. 1853-57. Pierce's administration.
 10. Jeremiah S. Black, Pennsylvania. 1860-61. Buchanan's administration.
 11. Elihu B. Washburne, Illinois. 1869. Grant's administration.
 12. Hamilton Fish, New York. 1869-77. Grant's administration.
 13. William M. Evarts, New York. 1877-81. Hayes' administration.
 14. James G. Blaine, Maine. 1881 and 1889-92. Garfield's and Harrison's administrations.
 15. Frederick T. Frelinghuysen, New Jersey. 1881-85. Arthur's administration.
37. Nullification proclamation of Andrew Jackson ordering obedience to the laws of the United States in South Carolina.
 38. Sword of Andrew Jackson.
 39. Portrait of John C. Calhoun, leader of the nullification party of South Carolina.
 40. Proclamation of Abraham Lincoln emancipating the slaves.
 41. Portrait (life size) of Lincoln. Loaned by the artist, Mathews.
 42. Silk flag presented to the United States by the weavers of Lyons, France, January 17, 1866, as a durable expression of sympathy at President Lincoln's death. The subscriptions came from 25,000 Lyons' laborers.
 43. Proclamations by the Presidents of the United States.
 1. George Washington, March 24, 1794, warning good citizens in Kentucky not to enlist for the unlawful invasion of friendly foreign territory.
 2. George Washington, January 1, 1795. Thursday, February 19, designated as a day of national thanksgiving. (Draft by Alexander Hamilton and Edmund Randolph.)
 3. John Adams, July 22, 1797. Commencement of coinage of the United States gold and silver, and cessation of foreign coin as legal tender.
 4. Thomas Jefferson, July 2, 1807. Neutrality of the United States disregarded in American waters.
 5. James Madison, December 12, 1815, commanding all persons in unlawful possession of public lands to remove therefrom.
 6. James Monroe, August 20, 1821, suspending discriminating duties on tonnage.
 7. John Quincy Adams, July 1, 1828, suspending discriminating duties on tonnage.

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8. Andrew Jackson, March 6, 1830, commanding all persons in unlawful possession of public lands to remove therefrom.
9. Martin Van Buren, June 14, 1837, abolishing tonnage due on certain vessels.
10. John Tyler, April 13, 1841, announcing the death of William Henry Harrison.
11. James K. Polk, September 7, 1846. Retrocession of Alexandria to the State of Virginia.
12. Zachary Taylor, January 10, 1850, constituting ports of delivery.
13. Millard Fillmore, December 13, 1850, admitting the State of Texas into the Union.
14. Franklin Pierce, July 2, 1855, establishing ports of export.
15. James Buchanan, June 25, 1860, calling an extra session of the Senate.
16. Abraham Lincoln, February 19, 1862, recommending the celebration and observance of George Washington's birthday.
17. Andrew Johnson, October 28, 1865, appointing the 7th of December as a day of thanksgiving.
18. U. S. Grant, April 8, 1869, convening an extra session of the Senate.
19. R. B. Hayes, October 30, 1878, appointing Thursday, November 28 a day of thanksgiving.
20. Chester A. Arthur, November 7, 1884, appointing November 27 a day of thanksgiving.
21. Grover Cleveland, November 2, 1885, appointing November 26 a day of thanksgiving.
22. Benjamin Harrison, November 8, 1890, appointing November 27 a day of thanksgiving.
44. **Autograph Letters from Presidents of the United States.** Loaned by John Boyd Thacher, Esq.
45. **The Washington Papers.** (Purchased by Acts of Congress of June 30, 1834, and March 3, 1849.
 1. The diaries of Washington, Volume I, May to August, 1781. Volume II, August 14 to November 5, 1781. Volume III, September 2 to October 4, 1784.
 2. The commission of General Washington as commander-in-chief. From the archives of Congress, being the original engrossed parchment surrendered by him at Annapolis.
 3. Washington's meteorological record, 1799. This probably contains the last words written by Washington.
 4. Statuette of George Washington by Baron Marchetti from the original study and model by his master, M. Houdon, of Paris, in 1785-90 for an equestrian statue, which, according to Thomas Jefferson, United States Minister to France, was sent to America by Houdon with the expectation of receiving an order from the Congress of the United States to have it cast in bronze, but the

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model was destroyed by fire in Washington, thus leaving this statuette as the only survival. Loaned by the Right Honorable Lord George Young, of Edinburgh, Scotland.

5. Calumet stem smoked by Washington with an Indian chief whom he met on his surveying journey into the country of the Ohio at the age of seventeen. The calumet was presented by the chief to Lord Fairfax of Greenway Court, Virginia, Washington's earliest patron.
6. Photograph of Lord Fairfax's office at Greenway Court.
7. Photograph of supply mill built by Washington at Winchester, Virginia.
8. Receipt from Lord Fairfax to Washington.
9. Punch bowl presented by Washington to Col. Benjamin George Eyre, his aide at the Battle of Princeton. Loaned by Benjamin Eyre Valentine, New York Society of the Sons of the Revolution.
10. Portrait of Washington.
11. Print likeness of Washington.
12. Lithograph portrait of Washington. Loaned by Elson & Co., Boston.
13. Letters of Washington, September 19, 1776, to March 14, 1777. These are for the most part addressed to the President of Congress in the handwriting of the secretary of Washington, interspersed with autograph letters.

Declaration of Independence. Photographic reproduction of the original document now deposited in the Department of State.

46. Fac-simile of the Declaration of Independence.
- 46b. Broadside of the Declaration of Independence. Showing the method by which it was promulgated.
47. **Thomas Jefferson, author of the Declaration of Independence.**
 1. Portrait of Thomas Jefferson after the original by Wilson Peale.
 3. Photographs of Monticello near Charlottesville, Virginia, the home of Jefferson. Loaned by Jefferson M. Levy, Esq., of Monticello, Virginia.
 4. Coffee urn used by Thomas Jefferson. Loaned by Jefferson M. Levy, Esq., of Monticello, Virginia.
 5. Andirons of Thomas Jefferson. Loaned by Miss Pendleton of Philadelphia.
 6. The Jefferson papers. Notes, memoranda, etc., while Secretary of State. Fourth series, Volume I.
48. **Volume Connecticut Gazette and Universal Intelligencer, 1774-1776, containing re-print of Declaration of Independence.** Loaned by Dr. Geuveneur M. Smith, New York Society Sons of the Revolution.
49. **Portraits of the signers of the Declaration of Independence.**

Exhibit
No.

50. The Continental Congress.

1. Prints of resolves concerning the army (showing the manner in which the laws of that body were published).
2. Printed Journals of Congress. Volume I, 1774 to 1775; Volume II, 1776. These journals belonged to General Washington as President and show his bookmarks and autograph.
3. No. 26, "Indian affairs."
4. No. 77, papers relative to claims of territory by Pennsylvania and Connecticut.
5. No. 79, Volume I, letters of the Committee of Foreign Affairs and of R. R. Livingston, first Secretary of Foreign Affairs, 1781 to 1782.
6. No. 79, Volume III, letters of R. R. Livingston, Secretary of Foreign Affairs, 1783.
7. No. 80, Volume I, letters of John Jay, Secretary of Foreign Affairs, 1785.
8. No. 82, Volume I, letters of Benjamin Franklin, 1776 to 1781.
9. No. 83, Volume I, letters of Arthur Lee from February 1776 to 1779.
10. No. 84, Volume I, letters of John Adams from 1777 to 1780.
11. No. 85, Volume I, letters from the Joint Commissioners Franklin, Deane and Lee, and Adams, Jay and Laurens, 1777 to 1784.
12. No. 88, Volume I, letters from William Carmichael, 1777 to 1790.
13. Letters of W. Bingham, J. Parsons, W. Lee and J. Williams, from 1777 to 1781.
14. No. 93, Volume I, letters of C. W. F. Dumas from 1776 to 1781.
15. Instructions to Barclay and Lamb (early agents to Morocco and Algiers).
16. No. 145, letters and papers of bankers in Holland relative to contracts for loans to the United States in 1779.
(The above letters illustrate our earliest intercourse with foreign powers.)

51. Treaty of amity and commerce, of friendship and alliance, an act separate and secret between the United States and France. Signed at Paris February 6, 1778, by Benjamin Franklin, Silas Deane and Arthur Lee on the part of the United States, and by Count de Vergennes on the part of France. These are the original acts by which the United States and France allied themselves against Great Britain.

52. Benjamin Franklin, the chief negotiator of the treaty on the part of the United States.

1. Franklin's staff.
2. Franklin's letter to Strahan, July 5, 1775.
3. Duplicate original of the petition to the King, October 26, 1774. Presented by Franklin.
4. Franklin's articles of belief and acts of religion (the earliest autograph known to exist).
5. Letters of Franklin, Volume VI, January 12, 1784 to May 23, 1785.

Exhibit
No.

6. Decree of National Assembly of France ordering three days' mourning for the death of Benjamin Franklin, June 20, 1790.
53. Letters of Louis, King of France, whose government gave aid to the United States.
54. Sash of General Lafayette which he wore and used to bind his wound at the battle of Brandywine. Presented by him to General Heman Swift. Loaned by Dr. Edwin E. Swift, 101 West Eighty-first street, New York. New York Society Sons of the Revolution.
55. Treaty of Peace with Great Britain which terminated the Revolutionary War, signed at Paris, September 3, 1783, by Benjamin Franklin, John Adams and John Jay on the part of the United States and by D. Hartley on the part of Great Britain.
 1. Print likenesses of Franklin, Adams, Jay, W. Pitt, Charles James Fox, George III, Queen Charlotte, Lord North, Lord Shelburne, Laurens and D. Hartley.
 2. Letter of George III to the President announcing the recall of Erskine as Minister to the United States.
 3. Photograph "Signing of the Treaty of Peace with Great Britain." (From old picture.)
56. Sword of Tench Tilghman, Colonel and Aide-de-Camp to Washington. It was voted to him by Congress in acknowledgment of his bearing the message of the surrender of Cornwallis at Yorktown. Loaned by Oswald Tilghman of Easton, Maryland.
 2. Epaulettes and spurs of Colonel Tilghman. Loaned by Oswald Tilghman, Esq., of Easton, Maryland.
 3. Letter of Horatio Knox, Secretary of War to Colonel Tilghman. Loaned by Oswald Tilghman, Esq., of Easton, Maryland.
 4. Letter of Horatio Knox, Secretary of War, to Mrs. Tilghman, transmitting the sword voted to Colonel Tilghman by Congress. Loaned by Oswald Tilghman, Esq., Easton, Maryland.
 5. Oath of Allegiance and of office of Colonel Tilghman. Loaned by Oswald Tilghman, Esq., of Easton, Maryland.
57. Pastel drawing of Comfort Sands, Auditor General, New York, 1776. Loaned by Louis Joseph Sands, New York Society Sons of the Revolution.
58. Portraits of Louis XVI, Marie Antoinette, Neckar, D'Estaing, Burke, Turgot, B. Reading, General Steuben, Charles Thomson, General Gates, Drayton, Reed, Huntingdon, Dickinson, Jay, Deane and Gouv. Morris, Hopkins, Gates.
59. Portrait of Thomas Paine. Loaned by Moncure Daniel Conway, Esq. Pamphlets by Paine: "Common Sense," "Thoughts on the Race," "Dissertation on First Principles of Government." Loaned by Moncure Daniel Conway, Esq.

**Exhibit
No.****60. Constitution of the United States.**

1. Photographic reproduction of the original now deposited in the Department of State.
2. Print likenesses of members of the Convention which framed the Constitution.
3. Portrait of James Madison "Father of the Constitution."
4. Papers of James Madison, purchased under Act of Congress, May 31, 1848, Volume IV, May 15, 1787, to February 21, 1792. (Showing the papers as restored and bound by the Department of State.)

61. Papers of James Monroe, purchased under the Act of Congress, March 3, 1849. Volume VI, July 24, 1820 to July, 1831. (Showing the papers as restored and bound by the Department of State.)**62. Swords presented to the United States by Japan.****63. Medals in commemoration of the first embassy from Japan to the United States.****64. Malay Krisses captured from pirates.****65. Gold medal struck to commemorate the historic exposition at Madrid in 1893, to celebrate the Fourth Centenary of the Discovery of the New World by Columbus, and presented to the President of the United States.****66. Gold medal presented by the President of the Brazilian Republic to the President of the United States in commemoration of the visit of the United States squadron to salute the Brazilian Republic in 1891.****67. Gold medal designed and presented by the Sultan of Turkey to the President of the United States in commemoration of the 400th Anniversary of the Discovery of America.****BUREAU OF AMERICAN REPUBLICS.**

The historical exhibit of the Bureau of the American Republics and the collections of Columbiana are contained in the reproduction of the Monastery of La Rabida, of Palos in Spain, erected in Jackson Park. It comprises original documents, articles and relics, models, fac-similes and reproductions of interesting objects where the originals could not be secured, and oil paintings, water colors, etchings, photographs, charts, and other pictorial representations.

Group I.

Sec. A shows the condition of geography and the science of navigation at the time of Columbus. Nos. 1 to 35.

Sec. B illustrates the Court and Period of Ferdinand and Isabella. Nos. 45 to 70.

Sec. C describes the scenes and incidents in the birth and early life of Columbus. Nos. 80 to 111.

Sec. D shows the career of Columbus in Spain, and the places associated with his attempt to awaken interest in his plans and secure aid in prosecuting them. Nos. 120 to 185.

Sec. E illustrates the departure of Columbus on his first voyage, the discovery of the new world, and the return and reception of the Admiral in Spain. Nos. 195 to 282.

Sec. F illustrates in like manner the second voyage and the early settlements in the West Indies. Nos. 295 to 358.

Sec. G represents the third voyage and the arrest and return of Columbus in chains. Nos. 370 to 397.

Sec. H illustrates the fourth voyage of Columbus, and views of the places associated therewith. Nos. 410 to 422.

Sec. I shows places connected with the later life of Columbus, his death and burial places, and portraits and autographs of his descendants. Nos. 430 to 488.

Sec. K presents the relics of Columbus; original letters, commissions and documents from the sovereigns of Spain, and letters and papers written and signed by the Admiral, his will and many other precious relics. Nos. 500 to 586.

Sec. L shows how the discovery of America was made public, how the new world was named, and numerous examples of the earliest printed books on the subject. Nos. 600 to 662.

Sec. M contains documents, charts and pictures from the archives of the Vatican and loaned by His Holiness, Leo XIII. Nos. 680 to 698.

Sec. N contains the exhibit of rare volumes published just before and immediately after the discovery, relating to it and showing the geographical knowledge of the time, loaned by Hon. John Boyd Thacher, of Albany, N. Y. Nos. 715 to 731.

Sec. O illustrates the old town of St. Die, in France, where America was christened, with portraits of Vespucci and the others connected with that event, and original copies of the book which gave the new world its name. Nos. 740 to 782.

Portraits of Columbus. Nos. 1 to 78.

Statues and monuments to Columbus. Nos. 91 to 166.

Group II.

Sec. A illustrates the Conquest of Mexico. Nos. 960 to 978.

Sec. B illustrates the Conquest of Peru and early history. Nos. 985 to 1007.

Sec. C illustrates the discovery and conquest of other portions of America, portraits of the early mariners, the natives, and reproductions of early prints. Nos. 1020 to 1063.

Sec. D contains maps and charts showing the progress of civilization and the growth of geographical knowledge from the time of the discovery of the western hemisphere. Nos. 1075 to 1118.

Sec. E shows the relics left of the Spanish occupation in North America, in Florida and California. Nos. 1125 to 1151.

THE COMMERCIAL EXHIBIT

Of the Department of State consists of two parts, and is displayed in the gallery in the eastern part of the Government Building. The first part contains the pictorial illustrations of the Latin-American countries, and the second the commercial samples, catalogues, objects, illustration of methods of transportation, etc.

COMMERCIAL EXHIBITS.

Samples and illustrated catalogue and price list of goods used in the countries of Central and South America, not manufactured or sold in the United States, illustrating the needs of those countries and the class of articles demanded by their merchants and people, the styles, qualities and patterns, together with the methods of packing and shipping required for a successful competition in that trade. The articles are marked with the actual cost at the warehouse of the manufacturers in Europe.

Commercial samples from Dresden of cotton trowserings, broadcloth, military cloth, buckskins, casinets, twills, and drillings, napkins and towels, cotton flannels, spool and machine thread, braids, gimps and cords, curtains, velvet ribbons, pianos, velocipedes and bicycles, watches and clocks, knitting machines, sewing machines, scientific instruments for mining purposes, towboats and dredging machines, fire engines, glassware, enameled ware, windmotors, essential oils, drugs, photographic and albumen paper, ink, artificial flowers, sugar wafers, bands and bandages, dynamite, beer, moldings, cigarettes, perfumery, tin and lead goods, canvass for embroidery, machines for chocolate, card-board and paper, bags for ore, walking canes, straw hats, turbines and steam engines, condensed milk, chromos and oleographs, earthen ware and crockery, china ware, paper, cigarette paper, buttons, cutlery, gelatine dry-plates for photographers, lamp wicks, leather, calf and lamb skins, dolls, church and coffin ornaments, paper hangings, quick safety matches, furniture, petroleum stoves, ice making machines and safes, etc.

Dry goods from European mills, piece or dozen: 6 calico; 6 calico; 3 marine blue; 1 commercial linen; 1 linen; 1 linen; 1 linen; 1 esmeralda; 1 domestic linen; 1 domestic superior; 1 azargado superior; 1 narrow black calico; 1 red calico; 1 counterpane; 1 counterpane; 1 puebla; 1 puebla; 1 superior mourning goods; 6 white cambray; 7 bawn colored cambray; 4 choleta; 1 elastic; 1 gingham; 1 cotton; 2 common laborer's shirts; 1 dozen coarse shirts; 1 dozen white undershirts; 1 dozen cotton drawers; 1 dozen leather belts; 6 ponchos, cotton and linen; 6 cotton ponchos; 6 cotton ponchos; 1 dozen native rebosas; 1 dozen payslones de Algodon; 3 large mats for churches; 3 small mats for churches; 4 dozen red handkerchiefs; 1 dozen small white handkerchiefs; 1 dozen handkerchiefs with mottoes; 1 dozen imitation silk handkerchiefs; 1 dozen imitation silk handkerchiefs; 6 cotton counterpanes; 6 white cotton counterpanes; 6 white cotton pompadours; 6 white cotton alhambra; 1 dozen woman's stockings; 1 dozen woman's white stockings; 1 dozen coarse socks for men; 6 packages white spool thread; 1 pound white thread; 1 pound blue thread; 16 pieces ribbons; 16 pieces No. 5; 6 pieces No. 12; 6 pieces No.

5; 10 pieces ribbons a la mode; 8 pieces ribbons a la mode No. 12; 6 pieces kerseymere; 2 pieces white muslin; 2 pieces white muslin; 1 parcel of 31 cuts of cotton kerseymeres; 5 pieces wide calico; 6 ponchos; 6 ponchos, K. O.; 6 ponchos, with hoods; 10 dozen large Indian handkerchiefs; 1 dozen large Indian handkerchiefs, hemmed; 1 bale Indian blankets; 1 piece muslin; 1 bale long-cloth; 1 piece brown domestic; 1 Indian red; 6 dozen madras handkerchiefs; 6 dozen Indian red handkerchiefs; 2 pieces flowered Indian print; 1 Indian blue; 1 Indian yellow; 2 pieces salampore Indian fancy; 1 piece colored print drill; 1 bale batiste, fine cambric.

Sample books of cards are shown containing fine calicoes in various colors, fine dress goods, coarse ginghams and in fine qualities, blue check ginghams, coarse mourning goods, trowserings, tickings, ribbons in assorted colors, watered ribbons, 250 samples French woollens and cottons, French cashmere, French embroidered dress patterns and tailor patterns, French muslins, white colored and black and colored; English prints in books, figured and quality patterns, 600; quality cloth and full line of prints in purple; English samples fancy muslins and poplins; complete series designs English tailor's linings; English fine dress goods, embossed Indian muslins, prints, brown drills and linens; Scotch lawns, white and figured; Belfast linens, brown, white and coarse and colored; Osnaburg, white drill, linen handkerchiefs; white cambric, hemmed and fine union handkerchiefs; domestic linens, superfine and union and white; Silesian linens in brown and Holland; Silesian brown ducks, tinted alpacas, Persian lawns and checked linens from Belfast.

Ninety-four samples of jute and linen goods, hessians, bagging, tarpaulins, sackings, canvas, twine, etc., from Dundee in Scotland.

Ten lots sample woollens; 20 lots sample woollens; 44 lots sample woollens. Samples of prints in great variety, calicoes, turkey red handkerchiefs, shirtings, etc.

Sixty-one samples or lots of linens from Belfast, drills, lawns, cottonades, coatings, ducks, veiling, velveteen, mohair, merinos, satins, linings, cassimeres, flannels and woollens.

Miscellaneous samples for South American trade, Nos. 700 to 830.

The countries of Mexico, Central America, South America and the West Indies are pictorially illustrated by means of paintings, water-colors, photographs and solar enlargement, etc., showing the most prominent natural and artificial features of each country, the agriculture, products, manufactures, architecture, people and portraits of celebrated individuals, etc.

Section A, Mexico, 183 pictures.

Section B, Guatemala, 56 pictures.

Section C, Honduras, 15 pictures.

Section D, Salvador, 29 pictures.

Section E, Nicaragua, 24 pictures.

Section F, Costa Rica, 44 pictures.

Section G, Columbia, 95 pictures.

Section H, Venezuela, 77 pictures.

Section I, Ecuador, 49 pictures.

Section K, Peru, 104 pictures.

Section L, Bolivia, 78 pictures.

Section M, Chile, 82 pictures.

Section N, Argentine Republic, 42 pictures.

Section O, Uruguay, 45 pictures.

Section P, Paraguay, 12 pictures.

Section Q, Brazil, 94 pictures.

Section R, West Indies, 86 pictures.

Section S, Santo Domingo, 29 pictures.

Several lay figures are dressed in the garments of natives of South America, showing fabrics and manner of making, and bearing burdens to show usual methods of transportation of articles in the interior. Bullocks, burros, llamas, etc., are laden to also illustrate transportation needs and facilities.

Packing cases are shown to illustrate the most approved methods of packing goods for safe shipment.

A relief map of Mexico, Central and South America on a large scale illustrates the contour of the country, routes of trade, rivers, railways, etc.

A large map showing all existing means of communication between the United States and the West Indies, Central and South America.

TREASURY DEPARTMENT.

LIFE-SAVING SERVICE.

Exhibit
No.

1. A life-saving station completely equipped and manned.

Boats, Apparatus, Etc.

2. Apparatus cart.
3. Apparatus carriage (McLellan).
4. Ball (Ayrshire).
5. Boat, Beebe-McLellan self-bailing water-ballast surf-boat.
6. Boat, Beebe open surf-boat.
7. Boat, Dobbins' self-bailing, self-righting, water-ballast, center-board life-boat.
8. Boat, Dobbins' life-dinghy.
9. Boat, English pattern, 26 feet, 8 inches, self-bailing, self-righting life-boat.
10. Boat, English pattern 34 feet, self-bailing, self-righting water-ballast center-board life-boat.
11. Boat, Monomoy surf-boat.
12. Boat, river life-skiff.
13. Boat, drag.
14. Boat wagon, Dobbins' launching.
15. Boat, wagon service.
16. Breeches-buoy.
17. Gun (Hunt's life-saving).
18. Gun (Lyle's life-saving).
19. Hawser-cutters.
20. Haversack (for Lyle gun).
21. Haversack (for patrolmen).
22. Holders (for patrol signals.)
23. Heaving-stick.
24. Life-Belts.
25. Life-car.
26. Medicine-chest.
27. Mortar (Ayrshire).
28. Patrol-checks.
29. Patrol-clocks.
30. Patrol-lanterns.
31. Patrol-signals.

**Exhibit
No.**

- 32. **Projectile** (Hunt line-carrying).
- 33. **Projectile** (Lyle line-carrying).
- 34. **Rocket** (Cunningham line-carrying).
- 35. **Sand-anchor.**
- 36. **Shot-line, No. 4.**
- 37. **Shot-line, No. 7.**
- 38. **Shot-line, No. 9.**
- 39. **Shot-line box (A).**
- 40. **Shot-line box (B).**
- 41. **Signals** (International Code).
- 42. **Tally-boards.**
- 43. **Tripod** (for Cunningham rocket).
- 44. **Tripod** (for McLellan, for apparatus).
- 45. **Burns' Pictures Illustrating the Life-Saving Service.** (Loaned by the
Central Publishing Company.)
 - A Going to wreck with apparatus cart.
 - B Going to wreck with surf-boat.
 - C Making a rescue with breeches-buoy.
 - D Patrolman on duty.
 - E Patrolman discovers a wreck.
 - F Rigging beach apparatus to a wreck.
 - G Interior of Fire Island station.
 - H Life-boat under sail.
 - I Life-boat under oars.
 - J Launching of surf-boat.
 - K Loading of surf-boat.
 - L Coming over the bar.
 - M Merriman suit.
 - N Man in breeches-buoy.
 - O Man with heaving-stick.

MARINE HOSPITAL SERVICE.

- 46. **Apparatus** for steam disinfecting, portable.
- 47. **Apparatus** for steam disinfection, stationary.
- 48. **Apparatus** for utensils for municipal or house disinfection.
- 49. **Apparatus** for the application of liquified Sulphur Dioxide (802).
- 50. **Bath House** for quarantine Station, and Probation Camp, model of.
- 51. **Bacteriological Exhibit.**
- 52. **Bacteriological Laboratory.**
- 53. **Field outfit** for Bacteriological investigation.
- 54. **File Case** for Consular and Domestic health reports.
- 55. **File Case** for Chemical records.
- 56. **Furniture, etc.,** Marine-Hospital.
- 57. **Quarantine Station,** model of.
- 58. **Probation Camp,** model of.

Exhibit
No.

59. Sulphur furnace, model of.
60. Crematory garbage, model of, for hospitals, etc.
61. Crematory for incinerating bodies.

COAST AND GEODETIC SURVEY.

62. Reconnaissance.

Aneroid Barometer.	Marine Glasses.
Clinometer.	Mercurial Barometer
Draw Telescopes.	Pocket Sextants.
Gradiometer.	Pocket Alt-Azimuth.
Hand Level.	Steinheil Heliotrope.
	Small Theodolite.

63. Base Apparatus.

- New Secondary Base Apparatus.
New Duplex Base Apparatus.
New 5 meter Base Bar and Base Tapes.

64. Triangulation.

- 20 inch Direction Theodolite.
12 inch Direction Theodolite.
8 inch Direction Theodolite.
Heliotropes.
Models of Signals.
12 inch Repeating Theodolite.
8 inch Repeating Theodolite.
6 inch Repeating Theodolite.
Signal Lamp.
Vertical Collimator.

65. Time and Longitude.

- 46 inch Astronomical Transit.
37 inch Astronomical Transit.
Break Circuit Chronometer.
Cylinder Chronograph.
Prismatic Transit.
Set of Telegraph Instruments.

66. Gravity.

- New Pendulum Apparatus.
Pierce Yard Pendulum.
Pierce Meter Pendulum.
Repsold Reversible Pendulum.

67. Hypsometry.

- Engineers' Level and Rod.
Geodetic Level and Rod.
Geodetic Globe.
Vertical Circle.

Exhibit
No.

68. **Magnetics.**
 Adie Magnetometer.
 Globe.
 Globe.
 New Dip Circle.
 New Magnetometer.
 Old Magnetometer.
69. **Topography.**
 20 Meter Chain with Pins and Poles.
 Large Plane Table and Alidade.
 Mountain Plane Table and Alidade.
 Plane Table Telemeter.
70. **Tides.**
 Tide Gauge.
 Tidal Model.
 Tide Predicting Machine.

OFFICE OF WEIGHTS AND MEASURES.

71. **Balances.**
 72. **Fifty-foot Bench Standard.**
 73. **Glass Case for Kilogram.**
 74. **Imitation Kilogram.**
 75. **Meter of Alloy, 1874.**
 76. **Saxton Pyrometer.**
 77. **State Set of Customary Weights and Measures.**
 78. **State Set of Metric Weights and Measures.**
 79. **Chart Publications.**
 Model of part of Mt. Desert Island on scale of 1-40,000.
 The Original Topographic Sheets Nos. 1243 and 1244 covering the western part of the Model and the Islands on the southern part.
 Print of the engraved chart No. 306 with limits of the model marked upon it scale of 1-40,000.
 Profiles from original topographic sheet No. 1243 and chart No. 306 covering parts of the model.
 Original topographic sheet No. 1537, Frost Point to Norwalk River, Conn. A copy of sheet No. 1537 in contour only.
 Topographical engraving of "The Dalles," Columbia River, Oregon, and a view of The Dalles.
 Topographical drawing of Lake Tahoe.
80. **Charts.**
 122 Barnegat to Absecom, 1-80,000.
 142 Cape Hatteras, 1-80,000.
 161 Cape Canaveral, 1-80,000.
 180 Cedar Keys to Deadmans Bay, 1,80,000.
 5800 Cape Mendocino to Point St. George, contour 1-200,000.

Exhibit
No.

- 6100 Cape Lookout to Gray's Harbor, contour, 1-200,000. Comparative map of the coast line of the United States from the earliest period.
- 301 Eastport to Moose Cove, including Cobscook Bay, contour, 1-40,000
- 166-167 Florida Reefs, 1-80,000.
- 130 Hog Island Light to Cape Henry, 1-80,000.
- 137 Head of Chesapeake Bay, 1-80,000.
- 155 Hunting Island to Ossabaw Sound, 1-80,000.
- 151 Little River Inlet and part of Long Bay, 1-80,000.
- 103-104 Mt. Desert Island and Penobscot Bay, hachure, 2-80,000.
- 212 Mouth of Rio Grande, 1-80,000.
- 106-107 Mt. Desert Island and vicinity, contour, 1-40,000.
- 353 Narragansett Bay, hachures and contours, 1-40,000.
- 1441-1442 Neuse and Pamlico Rivers, 1-80,000.
- 206 Oyster Bay to Matagorda Bay, 1-80,000.
- 109-110 Part of Penobscot Bay, contours, 1-40,000.
- 5700 Point Arena to Mendocino, hachures, 1-200,000.
- 335 Salem, Mass., hachures, 1-25,000.
- 5200 Santa Monica to Point Conception, hachures, 1-200,000.
- 5500 San Francisco and Approaches, hachures, 1-200,000.
5581. San Francisco entrance—contour 1-40,000.
8200. Sumner Strait and Frederick Sound, Alaska—1-200,000.

Second Series.

Model of Carmel Bay, California, from chart No. 5,487, on scale 1-12,000.

Drawing of Carmel Bay for reduction, by photo-lithography.

Original sheets of Carmel Bay Nos. 1,458, a and b.

A hand reduction on scale 1-40,000 of chart No. 300 for publication, by photo-lithography.

A basso electrotype.

A drawing on scale 1-40,000 of section of chart No. 300 for publication by photo-lithography.

A photo-lithograph print of this drawing.

A photo-lithograph print on scale 1-40,000 of the photo-lithograph drawing on scale 1-30,000.

A transfer print of the copper plate.

A lithograph stone with print transferred.

A print from the lithograph stone.

An electrotype partly separated.

An Alto electrotype.

Chapman's photograph adjusting apparatus, with a copy of reduced photograph and tools.

Copper plate showing the work transferred and tracings from which transfer was made.

Copper plate with outlines, hydrography and general letters engraved.

Charts of Hampton Roads, scale 1-20,000, photo-lithograph 1-80,000, 1-400,000, 1-1, 200,000.

**Exhibit
No.**

Charts of San Francisco 1-40,000 contours 1-50,000 hachures, 1-80,000 contours, 1-20,000 hachures, 1-1,200,000 sailing chart.

Drawing section of chart No. 800, on scale 1-80,000, for publication by photo-lithography.

Original topographic sheet No. scale 1-10,000, showing area engraved.

Prints of the original basso plates and of the work in hachures, on scale 1-80,000, from chart No. 101.

Plate printing press.

81. Book Publications.

Annual Reports.

Appendices to Annual Reports.

Bulletins.

Catalogue of Charts.

Coast Pilots.

Miscellaneous documents, historical, bibliographical, etc.

Notices to Mariners.

Tide Tables.

Models.

Models of United States and Alaska.

Model of Rock Creek Park, District of Columbia.

OFFICE OF SUPERVISING ARCHITECT.

Baltimore, Md., United States post-office, courthouse, etc., photograph of.

Brooklyn, N. Y. United States postoffice, etc., perspective of.

Charleston, S. C. United States custom house, perspective of.

Chicago, Ill. World's Columbian Exposition, perspective of main entrance to Government Building.

Chicago, Ill. World's Columbian Exposition, view of interior of dome of Government Building.

Chicago, Ill. World's Columbian Exposition, perspective of United States Government Building.

Covington, Ky. United States courthouse and postoffice, perspective of.

Detroit, Mich. United States courthouse, postoffice, etc., perspective of.

Detroit, Mich. United States courthouse, postoffice, etc., perspective view of building from rear.

Evansville, Ind. United States custom house and postoffice, perspective of.

Fall River, Mass. United States custom house and postoffice, perspective of.

Ft. Wayne, Ind. United States courthouse and postoffice, perspective of.

**Exhibit
No.**

Kansas City, Mo. United States postoffice and courthouse, perspective of.

Milwaukee, Wis. United States postoffice, courthouse and customhouse, perspective of.

Nashville, Tenn. United States custom house and postoffice, perspective of.

New York, N. Y. United States appraiser's warehouse, perspective of.

New York, N. Y. United States barge office, perspective of.

New York, N. Y. United States courthouse and postoffice, perspective of.

Omaha, Neb. United States courthouse, custom house and postoffice, perspective of.

St. Paul, Minn. United States postoffice, courthouse and customhouse, perspective of.

Supervising Architect's Office, motto.

Washington, D. C. United States postoffice, perspective of.

BUREAU OF INTERNAL REVENUE.**83. Current Issues of Stamps.**

Tobacco, tax paid.

Tobacco, exportation.

Snuff.

Cigars, tax paid.

Cigars, exportation.

Cigarettes.

Prepared smoking opium.

Fermented liquors.

Oleomargarine.

Distilled spirits, tax paid.

Distilled spirits, other than tax paid.

Wine.

Special tax.

Certificates of registry.

84. Uncurrent Stamps.

Distilled spirits, tax paid.

Distilled spirits, other than tax paid.

Tobacco.

Snuff.

Cigars.

Cigarettes.

Fermented liquors.

Special tax.

Documentary and proprietary stamps.

THE MINT OF THE UNITED STATES.

NUMISMATIC.

Exhibit
No.

85. Coins.

- Nos. 1 to 141. Coins of the Greek Republics.
 142 to 262. Grecian Monarchies.
 263 to 498. Roman Republic.
 499 to 1086. Roman Empire, Julius Cæsar B. C. 49 to the end of the Western Empire, A. D., 1086.
 1087 to 1178. Byzantine Empire, A. D. 395 to 1453.
 1179 to 1382. France, A. D. 814 to present date.
 1383 to 1418. Old German Empire, A. D. 1152 to 1800.
 1419 to 1722. Austria, Hungary, Spain and Portugal.
 1723 to 1744. Scotland before the annexation.
 1745 to 2028 c. Great Britain, from about the commencement of the Christian era, to the present date.
 2029 to 2662. German States.
 2663 to 2950. Italian States.
 2951 to 3086. Russia, Poland, Finland and Greece (modern).
 3087 to 3224 b. A miscellaneous collection of the most interesting, ancient and modern coins.
 3225 to 3320. Switzerland.
 3321 to 3516. Denmark, Sweden and Norway.
 3517 to 3701. Netherlands and Belgium.
 3702 to 3890. Mexico.
 3831 to 3973. Central America, Columbia, Venezuela, Ecuador and Peru.
 3974 to 4085. Brazil, Bolivia, Argentine Republic and Uruguay.
 4086 to 4204 c. Chile, Hayti, Dominica, Sierra Leone, Liberia, Congo, Free State, Hawaii, Jamaica, Cape of Good Hope, Patagonia, Griguan-town.
 4206 to 4863. Turkey, Egypt, Algiers, Morocco, Tripoli, Tunis, Persia, East India, Ceylon, Cambodia, Roumania, Servia, Siam, Java, Demarara, Hong Kong, Bulgaria.
 4864 to 4927. Japan.
 4928 to 5627. China.
 5628 to 5807. English silver tokens.
 5808 to 5877. American Colonies.
 5878 to 5944. Private issues of Georgia, North Carolina, California, Pike's Peak, and Utah.
 5945 to 6168. United States patterns.
 6169 to 7236. Coins issued at the United States mint, from its establishment, 1792 to 1893.

86. United States Medals.

- 1 to 50. Officers of the Navy.

**Exhibit
No.**

- 51 to 106. Officers of the Army.
- 107 to 163. Presidential and Indian Peace.
- 164 to 184. Sub-National, Badges of Honor, Grand Army Republic.
- 185 to 215. Miscellaneous.
- 216 to 231. Directors, Superintendents and other Officers of the Mint.
- 266 to 288. Annual Assay Medals.

MECHANICAL.**87. Coining Press.**

Style at present used in all the Government Mints for all United States coins.

THE UNITED STATES LIGHTHOUSE ESTABLISHMENT.

(Government Main Building.)

88. Illuminating Apparatus.

- Hyper-radiant lens with constant level lamp for outer diamond shoals light station, off Cape Hatteras, N. C.
- Range lens with constant level lamp.
- First order revolving lens, Mahan system, reading 45, with Funck-Heap lamp.
- Second order revolving lens, Mahan system, reading 143, Funck-Heap lamp.
- Fourth order revolving lens with Funck-Heap lamp.
- Fourth order fixed lens with occulting clock and Funck-Heap lamp.
- Fifth order lens with Funck-Tubular lamp.
- Lens lantern with five-day reservoir.
- Funck lantern, red.
- Funck lantern with eight-day reservoir.
- Set lamps of various orders and kinds.
- Light vessel lantern fitted to a mast.
- Lens lantern for a light vessel fitted to a mast, to be lighted either by oil or electricity.
- Revolving light, fitted to a mast, actuated by a small engine.
- Upper end of an electric spar buoy with lamp and lantern attached.

89. Fog Signals.

- Stevens fog bell apparatus and bell.
- Gamewell fog bell apparatus and bell.
- Blower syren with hot air engine.
- Hand fog signal.

90. Models.

- Fowey Rocks Light House, Fla.
- Minots Ledge Light house, entrance to Boston Bay, Mass.
- Spectacle Reef Light House, Lake Huron.
- Crib used in building Spectacle Reef Light House.
- Cofferdam used in building Spectacle Reef Light House.

**Exhibit
No.**

River lights.
Whistling buoy.
Gas buoy.
Light vessel No. 40, five fathom bank, off entrance to Delaware Bay
Light vessel No. 39, relief light vessel, 2d light house district.

PICTURES.

91. Oil Paintings.

Alligator Reef Lighthouse, Fla.
Minots Ledge Lighthouse, Mass.

92. Water Colors:

Paris Island Rear Beacon, S. C.
Cape Henry Lighthouse, Va.
Fowey Rocks Lighthouse, Fla.
Thimble Shoal Lighthouse, Va.
Cleveland, O., Lighthouse, O.
Southwest Ledge Lighthouse, Conn.
Calcasieu Lighthouse, La.
Piedras Blancas Lighthouse, Cal.
River light.
Lighthouse tender Dahlia.

93. Photographs:

Hunting Island Lighthouse, S. C.
St. Augustine Lighthouse, Fla.
Grosse Point Lighthouse, Ill.
Screw Pile Lighthouse.
Two Pigeon Point Lighthouse, Cal.
Mare Island Lighthouse, Cal.
Old Field Point Light House, N. Y.
St. Johns River Light House, Fla.
Sand Key Light House, Fla.
Little Gull Island Light House, N. Y.
Amelia Island Light House, Fla.
Fort Sumter Light House, S. C.
Block Island Light House, R. I.
Spectacle Reef Light House, Mich.
Penfield Reef Light House, Conn.
Newport Harbor, R. I.
Day Beacon, Seaflower Reef, N. Y.
First Class Light Vessel.

94. Publications.

Drawings and Specifications of Light Houses, Keepers' Dwellings,
Light Vessels, Light House Tenders, Buoys, and other Aids to
Navigation.
Set of Annual Reports from 1872 to 1892.

40 UNITED STATES GOVERNMENT EXHIBIT.

**Exhibit
No.**

- 95. Drawings and Specifications of Light Houses.
- 96. Drawings and Specifications for Buoys and Appendages.
- 97. Drawings and Specifications for a Steam Fog Whistle.
- 98. Set of Annual Light House Board Reports from 1872-1892.
- 99. Miscellaneous.

Set of Supplies and Implements for Light Keepers.
Library Book Case and Books for Light Keepers.
Samples of Lamp Wicks.
Samples of Lamp Chimneys.
Samples of Clock Cords.
Samples of Electric Cables.

OUT-DOOR EXHIBIT (Government Piazza.)

- 100. Light House.
For Waackaack Light Station, N. Y., Lower Bay, N. J.
- 101. Buoys.
Whistling Buoy.
Bell Buoy.
First Class Can Buoy.
First Class Nun Buoy.
First Class Spar Buoy.

BUREAU OF ENGRAVING AND PRINTING.

- 102. Specimens of engraved bonds in denominations, ranging from one hundred to fifty thousand dollars.
- 103. Specimens of engraved government checks, treasury warrants, and customs inspectors certificates.
- 104. Illustrations of the different steps taken in the engraving of paper money.
- 105. Specimens of gold notes, treasury notes, silver certificates and National Bank currency.
- 106. Portraits and vignettes of all the presidents of the United States, all the secretaries of the treasury, and of many other prominent public men.
- 107. Samples of steel plates and other implements used in engraving.

REGISTER'S OFFICE.

- 108. United States Bonds, Paper Money, etc.

LOANS.	FORM OF ISSUE.	DENOMINA- TION.
Act April 14, 1842.....	Coup.	\$3,000
Act April 14, 1842.....	Regd.	10,000
Act March 3, 1843.....	Regd.	5,000
Act February 11, 1847.....	Regd.	5,000
Act March 31, 1848.....	Coup.	10,000
Act March 31, 1848.....	Regd.	10,000

TREASURY DEPARTMENT.

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Act September 9, 1850	Coup.	\$1,000
Act June 14, 1858.....	Regd.	5,000
Act June 14, 1858.....	Coup.	1,000
Act June 22, 1860	Coup.	1,000
Act June 22, 1860.....	Regd.	1,000
Act February 8, 1861.....	Coup.	1,000
Act February 8, 1861.....	Regd.	0,000
Act March 2, 1861.....	Coup.	50
Act March 2, 1861.....	Coup.	100
Act March 2, 1861.....	Coup.	500
Act July 17 and August 5, 1861	Regd.	1,000
Act July 17 and August 5, 1861.....	Coup.	50
Act July 17 and August 5, 1861.....	Coup.	100
Act July 17 and August 5, 1861.....	Coup.	500
Act July 17 and August 5, 1861.....	Coup.	1,000
Act February 25, 1862, 1st series.....	Regd.	5,000
Act February 25, 1862, 1st series.....	Coup.	50
Act February 25, 1862, 1st series.....	Coup.	100
Act February 25, 1862, 1st series.....	Coup.	500
Act February 25, 1862, 1st series.....	Coup.	1,000
Act February 25, 1862, 2d series.....	Coup.	50
Act February 25, 1862, 2d series.....	Coup.	100
Act February 25, 1862, 2d series.....	Coup.	500
Act February 25, 1862, 2d series.....	Coup.	1,000
Act February 25, 1862, 3d series.....	Coup.	50
Act February 25, 1862, 3d series.....	Coup.	100
Act February 25, 1862, 3d series.....	Coup.	500
Act February 25, 1862, 3d series.....	Coup.	1,000
Act February 25, 1862, 4th series	Coup.	50
Act February 25, 1862, 4th series	Coup.	100
Act February 25, 1862, 4th series	Coup.	500
Act February 25, 1862, 4th series	Coup.	1,000
Act March 3, 1863	Regd.	1,000
Act March 3, 1863.....	Coup.	50
Act March 3, 1863.....	Coup.	500
Act March 3, 1863.....	Coup.	1,000
Act March 3, 1864.....	Regd.	5,000
Act March 3, 1864, 10-40's.....	Regd.	10,000
Act March 3, 1864, 10-40's.....	Coup.	50
Act March 3, 1864, 10-40's.....	Coup.	100
Act March 3, 1864, 10-40's.....	Coup.	500
Act March 3, 1864, 10-40's.....	Coup.	1,000
Act June 30, 1864.....	Regd.	10,000
Act June 30, 1864.....	Coup.	50
Act June 30, 1864.....	Coup.	100
Act June 30, 1864.....	Coup.	500

Act June 30, 1864.....	Coup.	\$1,000.00
Act March 3, 1865, 1st series.....	Regd.	100.00
Act March 3, 1865, 1st series.....	Coup.	50.00
Act March 3, 1865, 1st series.....	Coup.	100.00
Act March 3, 1865, 1st series.....	Coup.	500.00
Act March 3, 1865, 1st series.....	Coup.	1,000.00
Act March 3, 1865, Consols '65.....	Regd.	10,000.00
Act March 3, 1865, Consols '65.....	Coup.	50.00
Act March 3, 1865, Consols '65.....	Coup.	100.00
Act March 3, 1865, Consols '65.....	Coup.	500.00
Act March 3, 1865, Consols '65.....	Coup.	1,000.00
Act March 3, 1865, Consols '67.....	Regd.	100.00
Act March 3, 1865, Consols '67.....	Coup.	50.00
Act March 3, 1865, Consols '67.....	Coup.	100.00
Act March 3, 1865, Consols '67.....	Coup.	500.00
Act March 3, 1865, Consols '67.....	Coup.	1,000.00
Act March 3, 1865, Consols '68.....	Regd.	500.00
Act March 3, 1865, Consols '68.....	Coup.	50.00
Act March 3, 1865, Consols '68.....	Coup.	100.00
Act March 3, 1865, Consols '68.....	Coup.	500.00
Act March 3, 1865, Consols '68.....	Coup.	1,000.00
Funded, 1881.....	Regd.	50,000.00
Funded, 1881.....	Coup.	50.00
Funded, 1881.....	Coup.	100.00
Funded, 1881.....	Coup.	500.00
Funded, 1881.....	Coup.	1,000.00
Funded, 1881.....	Coup.	5,000.00
Funded, 1881.....	Coup.	10,000.00
Act July 12, 1882.....	Regd.	500.00
Act July 12, 1882.....	Regd.	1,000.00
Act July 12, 1882.....	Regd.	10,000.00
Funded, 1891.....	Coup.	50.00
Funded, 1891.....	Coup.	100.00
Funded, 1891.....	Coup.	500.00
Funded, 1891.....	Coup.	1,000.00
Consols, 1907.....	Coup.	50.00
Consols, 1907.....	Coup.	100.00
Consols, 1907.....	Coup.	500.00
Consols, 1907.....	Coup.	1,000.00
D. C., 3-65.....	Coup.	500.00
D. C., Permanent Improvement.....	Coup.	100.00
D. C., Permanent Improvement.....	Coup.	1,000.00
D. C., Water Stock.....	Coup.	1,000.00
D. C., Market Stock.....	Coup.	1,000.00
D. C., 30 Year Funding.....	Coup.	1,000.00
D. C., 20 Year Funding.....	Coup.	1,000.00

TREASURY DEPARTMENT.

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D. C., 20 Year Funding.....	Coup.		\$50.00
D. C., 20 Year Funding.....	Coup.		1,000.00
D. C., 10 Year (Bowen).....	Coup.		500.00
D. C., Steam Force Pump.....	Coup.		500.00
	Act.	Denomination.	
Loan Office Certificate.....	Feb.	22, 1777	\$300.00
Loan Office Certificate.....	Jan.	17, 1778	500.00
Loan Office Certificate.....	Feb.	3, 1779	400.00
Loan Office Certificate.....	Feb.	3, 1779	1,000.00
Indents of Interest.....		1785	8.00
Indents of Interest.....		1785	9.00
Indents of Interest.....		1785	20.00
Indents of Interest.....		1785	25.00
Debts due Foreign Officers.....		1784	1,000.00
Registered black lettered.....		1784	123.50
Virginia Loan Office.....	Aug.	4, 1790	337.22
Three per cent. Treasury.....	Nov.	2, 1792	20,000.00
Five and one-half per cent. Stock (Exchanged for Foreign Debt).....			4,000.00
Mississippi Stock.....	March	3, 1814	10,000.00
Loan 1814.....	May	2, 1814	50,000.00
Five per cent. Stock.....		1821	10,000.00
Continental money, Miscellaneous Collections....			
Old Treasury Notes.....	Oct.	12, 1837	100.00
Old Treasury Notes.....	Jan.	31, 1842	50.00
Old Treasury Notes.....	Jan.	31, 1842	500.00
Old Treasury Notes.....	Jan.	31, 1842	1,000.00
Old Treasury Notes.....	March	3, 1843	50.00
Old Treasury Notes.....	Jan.	28, 1847	50.00
Old Treasury Notes.....	Jan.	28, 1847	100.00
Old Treasury Notes.....	Jan.	28, 1847	1,000.00
Old Treasury Notes.....	Dec.	23, 1857	100.00
Old Treasury Notes.....	Dec.	23, 1857	500.00
Old Treasury Notes.....	March	2, 1861	50.00
Seven-Thirty Treasury Notes.....	July	17, 1861	1,000.00
Seven-Thirty Treasury Notes.....	June	30, 1864	100.00
Seven-Thirty Treasury Notes.....	March	3, 1863	100.00
Seven-Thirty Treasury Notes.....	March	3, 1865	50.00
One Year five per cent. Treasury Notes.....	March	3, 1863	10.00
One Year five per cent. Treasury Notes.....	March	3, 1863	20.00
One Year five per cent. Treasury Notes.....	March	3, 1863	100.00
Two Year five per cent. Treasury Notes.....	March	3, 1863	50.00
Two Year five per cent. Treasury Notes.....	March	3, 1863	100.00
Three Year six per cent. Comp. Int. Notes.....	June	30, 1864	10.00
Three Year six per cent. Comp. Int. Notes.....	June	30, 1864	20.00
Three Year six per cent. Comp. Int. Notes.....	June	30, 1864	50.00

Three Year six per cent. Comp. Int. Notes.....	June 30, 1864	\$100.00
Three Year six per cent. Comp. Int. Notes.....	June 30, 1864	500.00
Gold Certificates (Old)	March 3, 1863	20.00
Gold Certificates (Old)	March 3, 1863	100.00
Gold Certificates (Old)	March 3, 1863	500.00
Gold Certificates (Old)	March 3, 1863	1,000.00
Gold Certificates (Old)	March 3, 1863	5,000.00
Gold Certificates, Series 1870.....	March 3, 1863	500.00
Gold Certificates, Series 1870.....	March 3, 1863	1,000.00
Gold Certificates, Series 1870.....	March 3, 1863	5,000.00
Gold Certificates, Series 1870.....	March 3, 1863	10,000.00
Gold Certificates, Series 1871.....	March 3, 1863	100.00
Gold Certificates, Series 1875.....	March 3, 1863	100.00
Gold Certificates, Series 1875.....	March 3, 1863	500.00
Gold Certificates, Series 1875.....	March 3, 1863	1,000.00
Gold Certificates, Series 1875.....	March 3, 1863	5,000.00
Gold Certificates, Series 1875.....	March 3, 1863	10,000.00
Gold Certificates.....	July 12, 1882	5,000.00
Gold Certificates.....	July 12, 1882	10,000.00
Certificates of Deposit (Temp. Loan).....	Feb. 25, 1862	1,000.00
Certificates of Deposit (Temp. Loan).....	Feb. 25, 1862	5,000.00
Three per cent. Certificate.....	March 2, 1867	
	and July 25, 1868	5,000.00
Three per cent. Certificate.....	March 2, 1867	
	and July 25, 1868	10,000.00
Currency Certificate of Deposit.....	June 8, 1872	5,000.00
Currency Certificate of Deposit.....	June 8, 1872	10,000.00
Certificate of Indebtedness.....	March 1, 1862	1,000.00
Certificate of Indebtedness.....	March 1, 1862	1,000.00
Certificate of Indebtedness.....	March 1, 1862	5,000.00
Certificate of Indebtedness.....	March 1, 1862	5,000.00
Certificate of Indebtedness.....	July 3, 1870	1,000.00
Four per cent. Refunding Certificate.....	Feb. 26, 1879	10.00
National Bank Notes.		
Series of 1875.....		5.00
Series of 1875.....		10.00
Series of 1875.....		30.00
Series of 1875.....		50.00
Series of 1875.....		100.00
Series of 1882.....		5.00
Series of 1882.....		10.00
Series of 1882.....		20.00
Series of 1882.....		50.00
Series of 1882.....		100.00
United States Currency.		
United States Demand Note.....	1861	5.00

TREASURY DEPARTMENT.

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United States Demand Note.....	1861	\$10.00
United States Demand Note.....	1861	20.00
United States Notes—New Issue.....	1862	1.00
United States Notes—New Issue.....		2.00
United States Notes—New Issue.....		5.00
United States Notes—New Issue.....		10.00
United States Notes—New Issue.....		20.00
United States Notes—New Issue.....		50.00
United States Notes—New Issue.....		100.00
United States Notes—Series of 1869.....		1.00
United States Notes—Series of 1869.....		2.00
United States Notes—Series of 1869.....		5.00
United States Notes—Series of 1869.....		20.00
United States Notes—Series of 1869.....		50.00
United States Notes—Series of 1869.....		100.00
United States Notes—Series of 1874.....		1.00
United States Notes—Series of 1874.....		2.00
United States Notes—Series of 1874.....		50.00
United States Notes—Series of 1874.....		500.00
United States Notes—Series of 1875.....		1.00
United States Notes—Series of 1875.....		2.00
United States Notes—Series of 1875.....		5.00
United States Notes—Series of 1875.....		10.00
United States Notes—Series of 1875.....		20.00
United States Notes—Series of 1875.....		100.00
United States Notes—Series of 1878.....		1.00
United States Notes—Series of 1878.....		2.00
United States Notes—Series of 1878.....		5.00
United States Notes—Series of 1878.....		10.00
United States Notes—Series of 1878.....		20.00
United States Notes—Series of 1878.....		100.00
United States Notes—Series of 1880.....		1.00
United States Notes—Series of 1880.....		2.00
United States Notes—Series of 1880.....		5.00
United States Notes—Series of 1880.....		10.00
United States Notes—Series of 1880.....		20.00
United States Notes—Series of 1880.....		50.00
United States Notes—Series of 1880.....		100.00
United States Notes—Series of 1880.....		500.00
United States Notes—Series of 1880.....		1,000.00
United States Notes—Series of 1890.....		1.00
United States Notes—Series of 1890.....		2.00
United States Notes—Series of 1890.....		5.00
United States Notes—Series of 1890.....		10.00
United States Silver Certificate, Washington, Series of 1878.....		10.00
United States Silver Certificate, Washington, Series of 1878.....		20.00

United States Silver Certificate, Washington, Series 1878.....	\$50.00
United States Silver Certificate, Washington, Series 1878.....	100.00
United States Silver Certificate, Washington, Series 1878.....	500.00
United States Silver Certificate, New York, Series 1878.....	10.00
United States Silver Certificate, New York, Series 1878.....	20.00
United States Silver Certificate, New York, Series 1878.....	50.00
United States Silver Certificate, San Francisco, Series 1878.....	10.00
United States Silver Certificate, San Francisco.....	20.00
United States Silver Certificate, San Francisco.....	50.00
United States Silver Certificate, San Francisco.....	100.00
United States Silver Certificate, San Francisco.....	1,000.00
United States Silver Certificate, Washington, Series 1880.....	10.00
United States Silver Certificate, Washington, Series 1880.....	20.00
United States Silver Certificate, Washington.....	50.00
United States Silver Certificate, Washington.....	100.00
United States Silver Certificate, Washington.....	500.00
United States Silver Certificate, Washington.....	1,000.00
United States Silver Certificate, Washington, Series 1886.....	1.00
United States Silver Certificate, Washington.....	2.00
United States Silver Certificate, Washington.....	5.00
United States Silver Certificate, Washington.....	10.00
United States Silver Certificate, Washington.....	20.00
United States Postal Currency, 1st Issue.....	.09
United States Postal Currency, 1st Issue.....	.10
United States Postal Currency, 1st Issue.....	.25
United States Postal Currency, 1st Issue.....	.50
Fractional Currency, 2d Issue.....	.05
Fractional Currency, 2d Issue.....	.10
Fractional Currency, 2d Issue.....	.25
Fractional Currency, 2d Issue.....	.50
Fractional Currency, 3rd Issue.....	.03
Fractional Currency, 3rd Issue.....	.05
Fractional Currency, 3rd Issue.....	.10
Fractional Currency, 3rd Issue.....	.25
Fractional Currency, 3rd Issue.....	.50
Fractional Currency, 4th Issue.....	.10
Fractional Currency, 4th Issue.....	.15
Fractional Currency, 4th Issue.....	.25
Fractional Currency, 4th Issue.....	.50
Fractional Currency, 4th Issue, 2d Series.....	.50
Fractional Currency, 4th Issue, 3d Series.....	.50
Fractional Currency, 5th Issue.....	.10
Fractional Currency, 5th Issue.....	.25
Fractional Currency, 5th Issue.....	.50
Colonial Notes (various Colonies).....	
State Banks—Broken State Banks.....	

Wild Cat and Shin-plasters.....
 Confederate Notes—various issues and denominations.....
 Issues and denominations.....
 Confederate Coupon and.....
 Registered Bonds.....

**Exhibit
No.**

- 109. A display** of the different keys to the vaults of the United States Treasury from 1789 to 1861, and specimens of the first and most recent combination locks used by the government.
- 110. The original draft** in payment of the "Geneva Award" in the sum of fifteen million five hundred thousand dollars.

BUREAU OF STATISTICS.

III. Charts and diagrams, 1 to 35.

Population of the United States, census years, 1790-1890.
 Population of the United States by States and Territories, 1890.
 Area of Settlement, census year, 1790-1890.
 Area of each State and Territory of the United States and date of their admission and organization.
 Wealth of the United States, census years, 1800-1890.
 Foreign commerce of the United States compared with the foreign commerce of the United Kingdom, Germany and France, 1870, 1880, 1890.
 Imports and exports of merchandise, 1859-1892.
 Imports and exports of gold and silver, 1864-1892.
 Imports and exports of merchandise by countries, 1892.
 Imports and exports of merchandise by geographical divisions.
 Imports and exports of merchandise by custom districts, 1892.
 Imports and exports of merchandise according to degree of manufacture, sources of production, etc., 1892.
 Value of principal articles of imported merchandise, 1892.
 Value of exports of principal articles of domestic product and manufacture, 1892.
 Imported merchandise entered for consumption and duty collected, 1844-1892.
 Ordinary duty collected on principal dutiable imported commodities, 1890-1892.
 Value of imported manufactures of wool, entered for consumption and amount of duty received, 1867-1892.
 Consumption of domestic and foreign wool, 1840-1892.
 Consumption per capita of population, of tea and coffee, 1850-1892.
 Average annual consumption per capita of population of distilled spirits and malt liquors, 1840-1892.
 Annual average export prices of hog and beef products, 1860-1892.
 Annual average export prices of wheat and corn, 1861-1892.
 Transit and transshipment trade, 1892.

**Exhibit
No.**

Value of imports and exports carried in American and foreign vessels, 1853-1892.

Nationality of tonnage entered from foreign countries at seaports of the United States, 1892.

Arrival in the United States of alien passengers and immigrants, 1821-1892.

Internal revenue collections, 1863-1892.

Interest bearing debt and annual interest charge July 1 of each year, 1860-1892.

Debt per capita, 1860-1892.

Amount of money and money in circulation in the United States July 1st, each year, 1860-1892.

Amount of the annual appropriations made by Congress, 1885, 1889 and 1893.

Actual revenue and expenditure of the government, 1860-1892.

Pensioners, 1861-1892.

United States public schools, 1870-1892.

Public debt and rate of taxation of each State and Territory, 1891.

Railway mileage of the world, 1890.

112. Statistical Tables, 1 to 12.

Imports and Exports of Merchandise, 1791-1892.

Imports and Exports of Gold and Silver, 1821-1892.

United States Foreign Carrying Trade, 1821-1892.

Merchandise entered for Consumption and Duty collected, 1821-1892.

Internal Revenue Collections, 1860-1892.

Receipts of the Government, 1789-1892.

Expenditures of the Government, 1789-1892.

Tonnage of the Merchant Marine, 1789-1892.

Immigration, 1820-1892.

Public Debt Annual outstanding Principal, Jan. 1, 1791-1892.

Coinage of Gold and Silver, 1793-1892.

Tonnage Movement in the Foreign Trade, 1856-1892.

113. Publications.

Statistical Abstract of the United States, 1892.

Internal Commerce of the United States, 1890-1891.

Commerce and Navigation of the United States, 1892.

Foreign Commerce of the United States, 1892.

Special Report on Wool and Manufactures of Wool, 1888.

Commerce of the United States with American Countries, 1891.

The Existing Tariff on Imports into the United States, 1888.

Miscellaneous Tables upon Foreign Commerce and Finance, 1892.

Commerce of the United States and certain European Nations with American Countries, 1890.

Quarterly Reports upon Foreign Commerce, etc., 1891-1892-1893.

Exhibit
No.

Imported Merchandise entered for consumption, 1892.

Commerce of the United States with the Hawaiian Islands, 1871-1892.

**A COMPLETE SET OF PORTRAITS OF THE SECRETARIES OF
THE TREASURY FROM ITS ORGANIZATION IN SEPTEMBER, 1789, TO MARCH, 1893.**

114. **Alexander Hamilton**, September, 1789, January, 1795, New York. Appointed by Washington.
115. **Oliver Wolcott**, February, 1795, November, 1800, Connecticut. Appointed by Washington.
116. **Samuel Dexter**, January, 1801, May, 1801, Massachusetts. Appointed by Adams.
117. **Albert Gallatin**, May, 1801, April, 1813, Pennsylvania. Appointed by Jefferson.
118. **George W. Campbell**, February, 1814, September, 1814, Tennessee. Appointed by Madison.
119. **Alexander J. Dallas**, October, 1814, October, 1816, Pennsylvania. Appointed by Madison.
120. **William H. Crawford**, October, 1816, March, 1825, Georgia. Appointed by Madison.
121. **Richard Rush**, March, 1825, March, 1829, Pennsylvania. Appointed by J. Q. Adams.
122. **Samuel D. Ingham**, March, 1829, June, 1831, Pennsylvania. Appointed by Jackson.
123. **Louis McLane**, August, 1831, May, 1833, Delaware. Appointed by Jackson.
124. **William J. Duane**, May, 1833, September, 1833, Pennsylvania. Appointed by Jackson.
125. **Roger B. Taney**, September, 1833, June, 1834, Maryland. Appointed by Jackson.
126. **Levi Woodbury**, June, 1834, March, 1841, New Hampshire. Appointed by Jackson.
127. **Thomas Ewing**, March, 1841, September, 1841, Ohio. Appointed by Harrison.
128. **Walter Forward**, September, 1841, February, 1843, Pennsylvania. Appointed by Tyler.
129. **John C. Spencer**, March, 1843, May, 1844, New York. Appointed by Tyler.
130. **George M. Bibb**, June, 1844, March, 1845, Kentucky. Appointed by Tyler.
131. **Robert J. Walker**, March, 1845, March, 1849, Mississippi. Appointed by Polk.
132. **William M. Meredith**, March, 1849, July, 1850, Pennsylvania. Appointed by Taylor.
133. **Thomas Corwin**, July, 1850, March, 1853, Ohio. Appointed by Fillmore.

Exhibit
No.

134. **James Guthrie**, March, 1853, March, 1857, Kentucky. Appointed by Pierce.
135. **Howell Cobb**, March, 1857, December, 1860, Georgia. Appointed by Buchanan.
136. **Philip Francis Thomas**, Decemoer, 1860, January, 1861, Maryland. Appointed by Buchanan.
137. **Jno. A. Dix**, January, 1861, March, 1861, New York. Appointed by Buchanan.
138. **Salmon P. Chase**, March, 1861, June, 1864, Ohio. Appointed by Lincoln.
139. **William P. Fessenden**, July, 1864, March, 1865, Maine. Appointed by Lincoln.
140. **Hugh McCulloch**, March, 1865, March, 1869, October, 1884, March, 1885, Indiana. Appointed by Lincoln and Arthur.
141. **George S. Boutwell**, March, 1869. March, 1873, Massachusetts. Appointed by Grant.
142. **William A. Richardson**, March, 1873, January, 1874, Massachusetts. Appointed by Grant.
143. **Benjamin H. Bristow**, June, 1874, June, 1876, Kentucky. Appointed by Grant.
144. **Lot M. Morrill**, June, 1876, March, 1877, Maine. Appointed by Grant.
145. **John Sherman**, March, 1877, March, 1881, Ohio. Appointed by Hayes.
146. **William Windom**, March, 1881, November, 1881, March, 1889, January, 1891, Minnesota. Appointed by Garfield and Harrison.
147. **Charles J. Folger**, November, 1881, September, 1884, New York. Appointed by Arthur.
148. **Walter Q. Gresham**, September, 1884, October, 1884, Indiana. Appointed by Arthur.
149. **Daniel Manning**, March, 1885, March, 1887, New York. Appointed by Cleveland.
150. **Charles S. Fairchild**, April, 1887, March, 1889, New York. Appointed by Cleveland.
151. **Charles Foster**, February, 1891, March, 1893, Ohio. Appointed by Harrison.
152. **John G. Carlisle**, March, 1893, Kentucky. Appointed by Cleveland.

WAR DEPARTMENT.

QUARTERMASTERS' SECTION.

(This Exhibit is to be found in the Government Main Building.)

CLOTHING AND EQUIPAGE.

Exhibit
No.

1. **Barrack Furniture.**
2. **Bunk**, with wire bunk bottom and bedding.
3. **Flags and Colors.**
Historic flags, from Revolutionary War to the War of the Rebellion.
Corps and Division Flags of the War of the Rebellion.
Noted Battle Flags, and Colors of the Headquarters of prominent Generals.
Flags and colors of the present regulations, including the National Colors, Standards and Guidons of the several arms of the service.
4. **Kitchen Utensils**, including camp kettles, etc.
5. **Mess Table and Stools**, with all table furniture.
6. **Range Army**, with range furniture.
7. **Tents**, models of the different tents furnished by the Department.
8. **Uniforms, Lay Figures**, mounted and unmounted, showing uniforms of different periods from 1620 to 1893.
 - a Puritan soldier.
 - b Revolutionary uniforms.
 - c Period, 1812.
 - d Mexican War.
 - e Period, 1850-1852.
 - f Period, 1861-1865.
 - g Present regulations.
 - h Display of articles of clothing, including underclothing, boots, shoes, hats, caps, gloves, etc.
 - i Display of officers' equipment and accouterment, and trimmings for the enlisted men.
 - j Display of chevrons.
 - k Lithographs, in swinging frames, illustrating the uniforms of the army of the past and present regulations.
 - l Book of samples of materials entering into the manufacture of army clothing.

MEANS OF TRANSPORTATION.Exhibit
No.

9. **Army Wagon**, six mules, complete, with lay mules, showing harness, etc.
10. **Escort Wagon**, four mules, complete, with lay mules, showing harness, etc.
11. **Dougherty Spring Wagon**, complete, with lay mules, showing harness, etc.
12. **Ambulance**, Red Cross.
13. **Dump Cart**.
14. **Hand Cart**.
15. **Pack-Mules**, showing method of loading pack-saddles.
16. **Hand Litter**.
17. **Forges, Keystone, and Field Forge**.
18. **Saddlers' Tools**.
19. **Historic Wagon**, in use during the War of the Rebellion, and noted for its durability and number of miles traveled.
20. **Veterinary and Farriers' exhibit**.
 - a **Skeletons**, injected and ossified specimens, showing healthy and diseased condition of horse and mule, and method of treatment of different diseases and lameness.
 - b **Instruments and medicines** issued by and used in the Quartermasters' Department.
 - c **Shoes and nails**.
 - d **Shoes and tools** made at the school of instruction at Jefferson Barracks, Mo.

MISCELLANEOUS.

21. **Cloth Testing Machines**, old and new style.
22. **Field Desk Company**.
23. **Model of United States Cemetery at Arlington, and Fort Myer, Va.**
24. **Model of Fort Sheridan, Ill.**
25. **Record Books, Post, Regimental and Company**.
26. **Band and Field Musical Instruments**.
27. **Fire Buckets from Alexandria, Va.** Belong to a fire company of which George Washington was a member, and used by him while a member.

MEDICAL SECTION.

(This Exhibit is to be found in the Army Medical Building.)

28. **Anthropometrical Apparatus**.
29. **Bacteriological and Clinical Laboratory and Bacteriological Apparatus**.
30. **Blank Forms** used by the Medical Department, United States Army.
31. **Dissecting Table** of Drs. Magendie and Claude Bernard.
32. **Field Hospital** with Field Equipment.
33. **Hospitals, United States Army, Models and Drawings** of, showing general construction and heating and ventilation.
34. **Hospital Tents**.
35. **Identification of the Soldier**. Illustrated by a series of charts.

Exhibit
No.

35. **Medical Supplies for 100 Men.**
37. **Medical Supply Table.**
38. **Microscopes.** A series illustrating their development.
39. **Osteology.** Illustrated by a series of sections of bones.
40. **Pathological Preparations.** Showing the different stages and conditions of tuberculosis, typhoid fever, tumors and cancers and primary and secondary conditions of lesions of bones.
41. **Photomicrographs.** Illustrating pathology, histology, bacteriology and embryology, parasitis insects, algæ, and specimens of botany
42. **Portraits of Physicians.**
43. **Projectiles, small:**
 - a* Series of distorted bullets from the war, 1861-65.
 - b* Series of experiments with projectiles of small calibre.
44. **Publications.** A series of the publications of the Medical Department, United States Army.
45. **Transportation of Sick and Wounded:**
 - By land—
 - a* By railway.
 - b* By ambulance wagons.
 - By water—
 - a* By river steamboat.
 - b* By ocean steamer.

ENGINEER SECTION.

(This Exhibit is to be found in the Government Main Building.)

MODELS, RIVER AND HARBOR IMPROVEMENTS.

46. **Columbia River, mouth of.** Jetty, tramway, and plant.
47. **Delaware Bay.** Iron pier at Lewes, Dela.
48. **Delaware Breakwater Harbor.**
49. **Delaware Harbor.** Stone barge used in construction of Delaware break-water.
50. **Delaware River.** Brush and stone dyke.
51. **Delaware River.** Pile and stone dyke.
52. **Delaware River.** Stone dyke with single mattress.
53. **Delaware River.** Ice pier at Marcus Hook.
54. **East River Improvement, New York.** Hallets Point.
55. **East River Improvement, New York.** Part of mine at Flood Rock.
56. **East River Improvement, New York.** Drill scow, "Gen. John Newton."
57. **East River Improvement, New York.** Hell Gate.
58. **East River Improvement, New York.** Ways Reef, Hell Gate.
59. **Fox River Improvement, Wisconsin.** Sluice gates of lower dam at Appleton.
60. **Fox River Improvement, Wisconsin.** Section of upper dam at Appleton.

54 UNITED STATES GOVERNMENT EXHIBIT.

Exhibit
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61. Fox River Improvement, Wisconsin. Stone lock at Appleton.
62. Harlem River.
63. Hudson River. Waterford to New Baltimore.
64. James River Improvement. Mattress dyke and wing dam.
65. James River Improvement. Drill platform.
66. St. John's River, Florida, Jetty.
67. Great Kanawha River Improvement; part of navigation pass, lock and dam No. 6.
68. Great Kanawha River Improvement; part of navigation pass, lock and dam No. 7 (full size).
69. Key West Harbor, Florida.
70. St. Mary's Falls Canal Lock.
71. Mississippi River, Reservoirs at headwaters of. Movable hydraulic weir, first design.
72. Mississippi River, Reservoirs at headwaters of. Movable hydraulic weir, second design.
73. Mississippi River, Reservoirs at headwaters of. Movable reversible hydraulic weir.
74. Mississippi River, Reservoirs at headwaters of. Winnebigoishish dam.
75. Mississippi River. Plant and works of construction. Mississippi river improvement.
76. Mississippi River, Upper. Construction of brush dam.
77. Mississippi River, Section of, before improvement.
78. Mississippi River, Section of, after improvement.
79. Mississippi River, Upper, Dry dock, Des Moines rapids canal.
80. Mississippi River, Upper. Dams of various types.
81. Ohio River Improvement. Davis Island dam.
82. Philadelphia Harbor, before improvement.
83. Philadelphia Harbor, after improvement.

**MODELS, MILITARY ENGINEERING, FORTIFICATIONS AND
COAST DEFENSE.**

84. Battery, depressing gun.
85. Battery, lift gun.
86. Battery, 16 Mortar, Abbot's.
87. Bridge equipage, ponton.
88. Gun carriage, King's disappearing.
89. Gun carriage, DeRussy.
90. Mine, Military.
91. Mines, submarine, triple group, Abbot's system with connections and appliances.
92. Torpedo, Sims-Edison fish.
93. Turret, Gruson.

ADDITIONAL MODEL.

94. Orograph.

PHOTOGRAPHS. RIVER AND HARBOR IMPROVEMENTS.**Exhibit**

- No.**
- 95. Agate Bay, Michigan.
 - 96. Boston Harbor, Point Allerton.
 - 97. Boston Harbor, Entrance of the Narrows
 - 98. Buffalo, New York, Outer Harbor at.
 - 99. Buffalo Harbor, New York, breakwater.
 - 100. Buffalo Harbor, New York, showing trestle for track used in transporting concrete.
 - 101. Buffalo Harbor, New York, north concrete mixer.
 - 102. Buffalo Harbor, New York, north concrete mixer.
 - 103. Buffalo Harbor, New York, breakwater.
 - 104. Buffalo Harbor, New York, breakwater.
 - 105. Buffalo Harbor, New York, concrete mixer receiving a charge.
 - 106. Buffalo Harbor, New York, filling charging box with concrete material.
 - 107. Buffalo Harbor, New York, showing concrete blocks for foundation.
 - 108. Buffalo Harbor, New York, showing dump and grip cars.
 - 109. Buffalo Harbor, New York, timber crib-work extension at south end.
 - 110. Buffalo Harbor, New York, timber crib-work extension at south end.
 - 111. Buffalo Harbor, New York, molds for forming parapet and banquette of concrete superstructure.
 - 112. Cumberland River Improvement, Tennessee, steamboat landing at foot of Broad street, Nashville.
 - 113. Calumet River, dredging in.
 - 114. Chicago Harbor, panoramic view.
 - 115. Chicago Harbor, panoramic view.
 - 116. Coos Bay, Oregon, Improvement of, outer end of jetty, pile driver, train with rock.
 - 117. Coos Bay, Oregon, Improvement of, revolving hydraulic pile driver, swinging pile into position.
 - 118. Coos Bay, Oregon, Improvement of, self-righting cars.
 - 119. Coos Bay, Oregon, Improvement of, rock ready to be dumped and mattress ready to be lowered.
 - 120. Coos Bay, Oregon, Improvement of, jetty.
 - 121. Columbia River, Upper, Survey of, the survey party.
 - 122. Columbia River, Upper, Survey of, typical Indian scene
 - 123. Columbia River, Oregon, site of Cascades lock.
 - 124. Columbia River, Oregon, site of Cascades lock.
 - 125. Columbia River, Oregon, Cascades lock during construction.
 - 126. Columbia River, Oregon, Cascades lock during construction.
 - 127. Columbia River, Oregon, Cascades lock during construction.
 - 128. Columbia River, Oregon, Cascades lock during construction.
 - 129. Connecticut River, Connecticut, Mouth of.
 - 130. Connecticut River, Connecticut, Mouth of.
 - 131. Coosa River, Alabama, lock No. 4 during construction.

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132. Coosa River, Alabama, lock No. 1.
133. Delaware Breakwater.
134. Delaware River Improvement, east dyke at Bulkhead bar.
135. Lewes, Dela., Iron Pier at.
136. East River, Hell Gate, explosion of Flood rock.
137. Fox River Improvement, Wisconsin, first lock at Kaukauna.
138. Fox River Improvement, Wisconsin, lower dam at Appleton.
139. Fox River Improvement, Wisconsin, dam at Little Chute.
140. Fox River Improvement, Wisconsin, combined lock at Little Chute.
141. Fox River Improvement, Wisconsin, winter view of locks Nos. 2, 3, 4 and 5, at Great Kaukauna.
142. Fox River, Wisconsin, Grignon Rapids.
143. French Broad River Improvement, Tennessee, dam above Hanging Rock shoals.
144. French Broad River Improvement, Tennessee, dam at foot of Seven Island shoals.
145. Galveston Harbor, section of south jetty.
146. Galveston Harbor, section of south jetty.
147. Illinois River Improvement, La Grange lock.
148. Illinois River Improvement, Kampsville lock, during construction; general view.
149. Illinois River Improvement, Kampsville lock, during construction; showing arrangements for laying stone on lock walls.
150. Great Kanawha River Improvement, West Virginia, lock and dam No. 7, during construction.
151. Great Kanawha River Improvement, West Virginia, lock and dam No. 4, during construction.
152. Great Kanawha River Improvement, West Virginia, inside first section, dam No. 7, for navigable pass.
153. Great Kanawha River Improvement, West Virginia, inside first section, dam No. 7, completed.
154. Great Kanawha River Improvement, West Virginia, lock and dam No. 4, after completion.
155. Great Kanawha River Improvement, West Virginia, coal barges and tow boat.
156. Great Kanawha River Improvement, West Virginia, coal barges and tow boats.
157. Great Kanawha River Improvement, West Virginia, interior of lock No. 7, during construction.
158. Great Kanawha River Improvement, West Virginia, coffer dam for lock No. 4.
159. Great Kanawha River Improvement, West Virginia, tow boat and barges in lock No. 6.
160. Great Kanawha River Improvement, West Virginia, tow boat and barges passing out of lock No. 6.

**Exhibit
No.**

161. Louisville and Portland Canal, enlargement at lower end.
162. Louisville and Portland Canal, enlargement at lower end.
163. Louisville and Portland Canal, enlargement at lower end.
164. Louisville and Portland Canal, old locks.
165. Louisville and Portland Canal, new locks.
166. Louisville and Portland Canal, new locks.
167. Louisville and Portland Canal, general view of locks.
168. Louisville and Portland Canal, lower lock.
169. Ludington Harbor, Michigan.
170. Marquette Harbor, Michigan, from the outside.
171. Marquette Harbor, Michigan, from the inside.
172. Marquette Harbor, Michigan, from the breakwater.
173. Manistee Harbor, Michigan.
174. St. Mary's Falls Canal and Lock of 1881.
175. St. Mary's Falls Canal and Lock of 1881.
176. St. Mary's Falls Canal and Lock of 1881.
177. St. Mary's Falls Canal, opening lower gate.
178. St. Mary's Falls Canal, westbound steamer leaving lock.
179. St. Mary's Falls Canal, eastbound steamer leaving lock.
180. St. Mary's Falls Canal, repairing accident to lock, August 2, 1890.
181. St. Mary's Falls Canal, repairing accident to lock, August 3, 1890.
182. St. Mary's Falls Canal, repairing accident to lock, August 3, 1890.
183. St. Mary's Falls Canal, repairing accident to lock, August 3, 1890.
184. Michigan City Harbor, Indiana.
185. Muskegon Harbor, Michigan.
186. Milwaukee Bay and Outer Harbor.
187. Upper Mississippi River Improvement, blasting in mid-channel, Rock Island Rapids.
188. Upper Mississippi River Improvement, interior of Des Moines rapids dry dock.
189. Mississippi River, snagboat Macomb at work.
190. Mississippi River, pile drivers at work.
191. Mississippi River Improvement, near Pine Bend, Minn.
192. Upper Mississippi River Improvement, below Ninninger, Minn.
193. Upper Mississippi River Improvement, below Keithsburg, Minn.
194. Mississippi River Shore Protection Work, showing head of mattress.
195. Mississippi River Shore Protection Work, grading bank at foot of mattress.
196. Mississippi River Shore Protection Work, weaving and stiffening the mattress.
197. Mississippi River Shore Protection Work, making mattress; mattress nearly ready for lowering.
198. Mississippi River Shore Protection Work, sinking the mattress.
199. Mississippi River Shore Protection Work, loading the sunken mattress.
200. Mississippi River Shore Protection Work, protecting upper bank.

Exhibit
No.

201. Mississippi River, Sinking Subaqueous Mat, Plum Point.
202. Missouri River Improvement, single dykes under construction.
203. Missouri River Improvement, showing incipient fill.
204. Missouri River Improvement, showing completed fill.
205. Missouri River Improvement, construction of dyke and partly sunk mat.
206. Missouri River Improvement, dyke and foot mat, ready for sinking.
207. Missouri River Improvement, effect of dyke in accumulating drift.
208. Missouri River Improvement, grading party at work with hydraulic grader.
209. Missouri River Improvement, mattress party at work.
210. Missouri River Improvement, mattress sunk, and stone bank revetment laid.
211. Missouri River Improvement, snagboat "C. R. Suter."
212. Missouri River Improvement, grading bank with hydraulic jet.
213. Missouri River Improvement, mattress party lowering mattress.
214. Missouri River Improvement, side view of snagboat "C. R. Suter."
215. Missouri River Improvement, pulling snags.
216. Missouri River Improvement, pile sinker for three-row pile dyke.
217. Missouri River Improvement, constructing foot mat for dyke.
218. Missouri River Improvement, system of pile dykes at Atchison.
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221. Muscle Shoals Canal, shoal creek aqueduct empty.
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224. Muscle Shoals Canal, quarry at lock No. 4.
225. Muscle Shoals Canal, locomotive towing.
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228. Muscle Shoals Canal, dam at channel above lock A.
229. Muscle Shoals Canal, shoal creek aqueduct, filled.
230. Muscle Shoals Canal, lock A.
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237. New Haven, Conn., breakwater at.
238. New York Harbor Improvement, hydraulic dredge "Reliance."
239. Ohio River Improvement, Davis Island lock and dam, five miles below Pittsburg, Pa.
240. Ohio River Improvement, Davis Island lock and dam; lowering the dam.
241. Ohio River Improvement, Davis Island lock and dam; towboat with tow passing through lock.

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- 242. Ohio River Improvement, Davis Island lock and dam; towboat with tow passing through navigable pass.
- 243. Ohio River Improvement, Davis Island lock and dam; view from north pier.
- 244. Ohio River Improvement, Davis Island lock and dam; lowering the dam.
- 245. Philadelphia Harbor Improvement, steam pulsometer at work.
- 246. Philadelphia Harbor Improvement, steam pulsometer depositing material on League Island.
- 247. Philadelphia Harbor Improvement, discharge pipe of steam pulsometer, 'Big Jim.'

**PHOTOGRAPHS. MILITARY ENGINEERING, FORTIFICATIONS
AND COAST DEFENSES.**

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- 249. Fort Sumter, South Carolina, interior just before final bombardment.
- 250. Fort Wadsworth, Staten Island, New York Harbor.
- 251. Fort La Fayette, Long Island, New York Harbor.
- 252. Fort Warren, Boston Harbor, east front.
- 253. Fort Monroe, Virginia, View of.
- 254. Fort Monroe, Virginia, View of.
- 255. Old Forts, New York Harbor, Castle Garden, New York City.
- 256. Old Forts, New York Harbor, Castle Williams, Governor's Island, New York.
- 257. Fort Pickens, Florida, View of.
- 258. Fort Barrancas, Florida, View of.
- 259. Willets Point, New York, explosion of submarine mine.
- 260. Willets Point, New York, destruction of schooner by submarine mine explosion.
- 261. Willets Point, New York, explosion of submarine mine.
- 262. Willets Point, New York, explosion of submarine mine under ice.
- 263. Willets Point, New York, explosion of submarine mine.
- 264. Willets Point, New York, mule decapitated by nitro-glycerine explosion.
- 265. Willets Point, New York, explosion of submarine mine.
- 266. Willets Point, New York, Sims-Edison fish torpedo in motion.
- 267. Willets Point, New York, explosion of submarine mine.

PHOTOGRAPHS OF LIGHT HOUSES.

- 268. Aransas Pass Light House, Texas.
- 269. Biloxi Light, Mississippi.
- 270. Bolivar Point Light, Galveston Harbor.
- 271. Chandeleur Light, Louisiana.
- 272. Dry Tortugas Light, Florida Reef.
- 273. Fort Point Light, Galveston Harbor, Texas.

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No.**

- 274. Fowey Rocks Light, Florida.
- 275. Front Beacon, Craighill Channel, Baltimore Harbor.
- 276. Gasparilla Light, Florida.
- 277. Poverty Island Light.
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- 279. Sandy Point Light House, Chesapeake Bay.
- 280. Sanibal Island Light, Florida.
- 281. Sharp's Island Light House, Choptank River Entrance, Md
- 282. Ship Island Light, Mississippi.
- 283. South Pass East Jetty Light, Mississippi River.
- 284. Sombrero Key Light, Florida Reefs.
- 285. Spectacle Reef Light.

**PHOTOGRAPHS OF PUBLIC WORKS IN DISTRICT OF
COLUMBIA.**

- 286. Perspective of the Building for the Library of Congress.
- 287. State War and Navy Building, Washington, D. C.
- 288. View of Building for Library of Congress, during construction.
- 289. Washington Monument.
- 290. Washington Aqueduct, Cabin John Bridge.
- 291. Washington Aqueduct, Griffith Park Bridge.
- 292. Washington Aqueduct, Rock Creek Bridge.

PHOTOGRAPHIC ALBUMS. (In Duplicate.)

- 293. Building for the Library of Congress. (16 views.)
- 294. Willets Point, Fort Monroe, Old Fortifications. (71 views.)
- 295. St. Mary's Falls Canal and Locks. (67 views.)
- 296. Light Houses. (69 views.)
- 297. Cascades Locks, Columbia River. (41 views.)
- 298. Upper Columbia River Improvement, Yaquina Bay, Coos Bay, Coquille River Entrance. (45 views.)
- 299. Improvements of Certain Rivers in South Carolina; Coosa River improvement, Alabama; Muscle Shoals canal, Tennessee River, Alabama. (41 views.)
- 300. Improvement of Certain Rivers and Harbors in Georgia. (54 views.)
- 301. Great Kanawha River Improvement, West Virginia; Falls of Ohio River, Louisville and Portland canal; Wabash river improvement; Cumberland and French Broad Rivers improvement. (70 views.)
- 302. Ohio River Improvement.
- 303. Allegheny River Improvement.
- 304. Muskingum River Improvement.
- 305. Monongahela River Improvement.
- 306. Boston Harbor, New York Harbor, Harlem and Hudson River Improvements, harbors of East Coast, Lake Michigan; harbors of Duluth, Agate Bay and Marquette. (78 views.)
- 307. Mississippi River Commission Works. (55 views.)

**Exhibit
No.**

308. Missouri Commission Works; Fox River Improvement; Illinois and Mississippi Canal; Illinois River Improvement; Calumet River and Chicago harbor. (65 views.)
309. Upper Mississippi River Improvement.

CHARTS, MAPS, AND DRAWINGS. RIVER AND HARBOR IMPROVEMENTS.

310. United States Snagboat "Suwanee," St. Augustine, Florida.
311. Elevation, Plan, Section and detail of Iron Lock Gates at Bremerhaven, copied from German drawings under the direction of G. Weitzel, Major of Engineers, U. S. A. (Sheets A. to F; 2 sets.)
312. Lake Champlain, cross sections of breakwaters.
313. Columbia River Improvement, mouth of, drawings and maps.
314. East River, Hell Gate, map Way's Reef.
315. East River, drawing, drill scow, "Gen John Newton."
316. Fox River, lower dam at Appleton.
317. Hudson River, Waterford to Hudson, map.
318. Kampsville Lock, Illinois River, Ill., detailed drawings of (in 14 sheets; 2 sets).
319. Great Kanawha River, West Virginia, detailed drawings of lock and dam No 7 (in 16 sheets; 2 sets).
320. Great Kanawha River, lock and dam No. 2; atlas of drawings.
321. Great Kanawha River Improvement; atlas of maps.
322. St. Mary's Falls Canal and Locks, Michigan, detailed drawings of (in 17 sheets; 2 sets).
323. Plans of Different Wooden Structures used in improving harbors on Lake Michigan (in 21 sheets and pamphlet; 2 sets).
324. Plan of Crib Work adopted for Piers of Lake Michigan Harbors (2 sets).
325. Des Moines Rapids Locks and Canal of the Mississippi River, detailed drawings of (in 39 sheets; 2 sets).
326. Reservoirs at Headwaters of the Mississippi, Winnebigoishish dam.
327. New York Harbor, improvement of; maps.
328. Falls of the Ohio River, improvement of; locks of the Louisville and Portland canal (in 8 sheets; 2 sets).
329. Davis Island Dam, Ohio River (in 12 sheets; 2 sets).
330. Potomac River Improvement, plan of.
331. Potomac River. Design of Suspension Bridge.
332. Outline Map of the United States and Territories, prepared in the office of the chief of engineers, U. S. A., showing the tonnage of the navigable rivers of the United States. Compiled from annual reports, 1890.
333. Map showing the location of works and surveys for river and harbor improvement. Compiled for the index to the reports of the chief of engineers, 1879.

CHARTS, MAPS, AND DRAWINGS. EXPLORATIONS AND SURVEYS.Exhibit
No.

- 334. **Map of the Arkansas River from Little Rock, Ark., to the mouth**
(in 22 sheets; 2 sets)
- 335. **Map of the Arkansas River from Wichita, Kas., to Fort Gibson,**
I. T., (in 36 sheets; 2 sets).
- 336. **Map of California and Nevada, with parts of Utah and Arizona, prepared**
in the office of the Chief of Engineers, U. S. A. 1879. (2 maps.)
- 337. **Charts of Lake Erie, United States, survey of the northern and north-**
western lakes. (2 sets).
- 338. **Charts of Lake Huron, United States, survey of the northern and**
northwestern lakes. (2 sets.)
- 339. **Charts of Lake Michigan, United States, survey of the northern and**
northwestern lakes. (2 sets.)
- 340. **Map of the Mississippi River from Lake Itasca to the Falls of St.**
Anthony (in 17 sheets; 2 sets.)
- 341. **Map of the Mississippi River from the Falls of St. Anthony to the**
junction of the Illinois River (in 29 sheets; 2 sets).
- 342. **Map of the Mississippi River between the mouth of the Illinois and the**
mouth of the Ohio River (in 11 sheets; 2 sets)
- 343. **Preliminary Map of the Lower Mississippi River from the mouth of**
the Ohio River to the head of the passes; by Mississippi River Com-
mission (in 37 sheets; 2 sets).
- 344. **Mississippi River, survey made under the direction of the Mississippi**
River Commission (Sheets Nos. 3 to 69 and 101 to 114; 2 sets).
- 345. **Alluvial Valley of the Mississippi River, map of, from the head of St.**
Francis basin to the Gulf of Mexico, showing lands subject to over-
flow, location of levees, and trans-alluvial profiles, by the Missis-
sippi River Commission, 1887 (in 8 sheets; 2 maps).
- 346. **Map of the Missouri River (in 45 sheets; 2 sets.)**
- 347. **Territories of New Mexico and Arizona, prepared in the office of the**
Chief of Engineers, U. S. A., 1879. (2 maps.)
- 348. **Map of the Ohio River (in 41 sheets; 2 sets).**
- 349. **Charts of Lake Superior, U. S., survey of the northern and northwestern**
lakes. (2 sets.)
- 350. **Survey of Western Texas, 1883-84. (2 sets.)**
- 351. **The United States and their Territories between the Mississippi and**
the Pacific Ocean, and of part of Mexico, compiled in the Bureau of
the Corps of Topographical Engineers, 1850.
- 352. **Territory of the United States from the Mississippi to the Pacific**
Ocean, 1854-55-56-57.
- 353. **Territory of the United States from the Mississippi River to the Pacific**
Ocean, recompiled and redrawn under the direction of the Chief of
Corps of Engineers, 1865-66-67-68.

Exhibit**No.**

- 354. **Map of the United States**, prepared in the office of the Chief of Engineers, U. S. A., 1885, corrected to 1889. (2 maps.)
- 355. **Map of Territory of the United States west of the Mississippi River**, prepared in the office of the Chief of Engineers, U. S. A., 1883. (2 maps.)
- 356. **Topographical Map of Washoe Mining Region**. (2 maps.)
- 357. **Outline Map of Washoe District, Nevada**, showing Comstock lode, location of mineral claims, shafts, mills, mining towns, etc., 1879. (2 maps.)
- 358. **Map of the White River** from Forsythe, Mo., to the mouth (in 45 sheets; 2 sets).
- 359. **Surveys west of the 100th meridian**. Topographical sheets. Land classification sheets. Geological sheets. (2 sets.)
- 360. **Map of the Yellow Stone River** from Fort Keogh to Fort Buford (in 44 sheets; 2 sets).
- 361. **Map of the Yellow Stone River** from Fort Keogh to Junction City (in 33 sheets; 2 sets).

MILITARY MAPS.

- 362. **Map of the territory and department of Arizona, 1885**. (2 maps.)
- 363. **Maps of Battle-fields in the Civil War**. (2 sets.)
- 364. **Map of the department of Columbia**; projected and compiled at the Engineer Office, Department of the Columbia, 1881; corrected to 1892. (2 maps.)
- 365. **Map of the department of Dakota**, including Minnesota, North Dakota, Montana, Yellowstone National Park and that portion of South Dakota lying north of the forty-fourth parallel of north latitude; prepared in the Engineer Office, Headquarters Department of Dakota, 1891. (2 maps.)
- 366. **Outline map of a portion of the Department of the Missouri, 1884**. (2 maps.)
- 367. **Northwestern New Mexico**; prepared in the office of the Chief Engineer, Department of the Missouri, 1885. (2 maps.)
- 368. **Southwestern New Mexico**; prepared in the office of the Chief Engineer, Department of the Missouri, 1883. (2 maps.)
- 369. **Map of that portion of the department of the Platte and adjacent territory west of the 103d meridian**; compiled at the Engineer office, Department of the Platte, 1889. (2 maps.)
- 370. **Military Map of Southwestern Texas, 1881**. (2 maps.)
- 371. **Military map of Western Texas, 1884**. (2 maps.)
- 372. **Military map of the United States**, office of the Chief of Engineers, War Department, 1870.

PUBLICATIONS OF THE ENGINEER BUREAU OF THE WAR DEPARTMENT.

(A detailed catalogue of the items in this class will accompany the exhibit.)

ORDNANCE SECTION.**SEA COAST GUNS AND CARRIAGES.**

Exhibit

No.

- 373. 12-inch breech loading rifle, steel, mounted on cradle.
- 374. 10-inch breech loading rifle, steel, mounted on free-recoil carriage. (Outside building.)
- 375. 8-inch breech loading rifle, steel, mounted on service barbette carriage.
- 376. Model of 8-inch breech loading steel rifle, showing construction.
- 377. 12-inch breech loading mortar, mounted on Canet carriage. (Outside building.)
- 378. 12-inch breech loading mortar, mounted on spring return carriage. (Outside building.)
- 379. 8-inch converted muzzle loading rifle, mounted on barbette carriage. (Outside building.)
- 380. Model of 15-inch muzzle loading Rodman gun on carriage.
- 381. Model of Sutcliff's mechanism for breech loading rifles.
- 382. Model of Krupp's mechanism for breech loading rifles.
- 383. Model of DeRussy's depressing gun carriage, 1835.
- 384. Model of Rodman's casting plant for guns.

SIEGE GUNS AND CARRIAGES.

- 385. 5-inch breech loading steel rifle, mounted on siege carriage. (Outside building.)
- 386. 7-inch breech loading steel howitzer, on sling cart. (Outside building.)

FIELD GUNS AND CARRIAGES.

- 387. 3.6-inch breech loading steel rifle on heavy field carriage.
- 388. 3.2-inch breech loading steel rifle on field carriage, with limber horses and harness.
- 389. 3.6-inch breech loading steel mortar and carriage on mortar platform.
- 390. Hotchkiss breech loading mountain gun and carriage packed on pack-mules.
- 391. Yates breech loading field gun, not mounted.
- 392. Models of Gerdorn breech mechanism for field guns.
- 393. Model of 6-pounder gun on Gribeauval carriage.

EARLY CANNON.

- 394. Chinese cannon, bronze, breech loader, fourteenth century.
- 395. Old breech loading gun, 4-pounder, wrought iron, of similar form, found in the Hudson River.

CANNON OF THE REVOLUTION. MUZZLE LOADING.

- 396. Small brass howitzer, English, calibre 2¾ inches.
- 397. French 6-pounder bronze gun, presented by General Lafayette.
- 398. English cannon, captured at Yorktown by General Lafayette.
- 399. English field piece, flint lock, bronze, calibre 3 inches.

CANNON OF THE MEXICAN WAR.

**Exhibit
No.**

- 400. 6-pounder bronze gun, 3.67 inches, Duncan's battery.
- 401. 6-pounder bronze gun, 3.67 inches, Ringgold's battery.
- 402. 17-inch bronze mortar and bed.

CANNON OF THE WAR OF THE REBELLION.

- 403. 4-pounder gun, fired first shot of Rebellion.
- 404. 3-inch wrought iron rifle, fired last shot against Lee's army at Appomattox.
- 405. Colt's revolving gun, calibre 2 inches. Old model.
- 406. George's cast iron revolving gun, calibre 1¼ inches; 18 horizontal radial chambers.
- 407. 3.1-inch breech loading William's gun, rifled.
- 408. 3-inch Whitworth breechloading steel rifle, captured from blockade runner.

OLD GUNS OF THE UNITED STATES.

- 409. 16-inch United States bronze mortar and bed.
- 410. 12-pounder bronze field gun with handles, calibre 4.62 inches.
- 411. 12-pounder breech loading smooth bore gun, cast iron, found at Fort Richmond, New York.

RAPID FIRE GUNS.

- 412. William's gun, rifled, calibre 1.56 inches. (War of the Rebellion.)
- 413. Hotchkiss 6-pounder, on crinoline mount.
- 414. Seabury 6-pounder, on crinoline mount.
- 415. Driggs-Schroeder 6-pounder, on crinoline mount.

MACHINE GUNS.

- 416. Gatling gun, model 1890, with carriage.
- 417. Gardner gun, improved, with carriage.
- 418. Requa battery gun, obsolete, with carriage.
- 419. Union repeating gun, obsolete, with carriage.
- 420. Vandeburgh volley gun, obsolete, with carriage.
- 421. Guthrie and Lee machine gun, obsolete.
- 422. Hotchkiss revolving cannon, calibre 1.5 inches, with carriage.
- 423. Maxim Machine Gun, loaned by Maxim Nordenfeldt Company.

SMALL ARMS.**MATCH LOCK GUNS.**

- 424. Match lock musket—Formosan.
- 425. Match lock musket from India; date unknown.
- 426. Match lock musket, calibre .717, of Fourteenth century.
- 427. Match-lock musket, calibre .56; history unknown; probably eastern.
- 428. Match lock musket, Chinese; loaned by Mr. E. Thomas, Chicago.

WHEEL LOCK GUNS.Exhibit
No.

429. Chinese wheel lock pistol; calibre .492.
430. Wheel lock gun, calibre .707; date about 1520.

FLINT LOCK GUNS. MUZZLE LOADERS.

431. Arab musket, calibre .727.
432. Albanian musket, calibre .72.
433. Old flint lock; unknown.
434. Flint lock musketoön, calibre .75.
435. English "Brown Bess," .75 calibre flint lock, bayonet, 1690-1840.
436. English smooth bore muzzle loading flint lock musket; calibre .75.
Model 1747, marked "King's own Regiment" on barrel. Revolutionary trophy.
437. Flint lock musket—French, calibre .72; model 1763.
438. Flint lock rifle used by minute men of the Revolution, 1776, calibre 81.
439. Old flint lock, loaned by Mr. E. Thomas, Chicago.
440. Springfield smooth bore flint lock musket, calibre .70; model, 1818.
441. Four blunderbusses, iron and brass barrels, wall pieces, 1776 to 1820

PERCUSSION LOCK GUNS—MUZZLE LOADERS.

442. Muzzle loading musket, hammer underneath, for ribbon primer, 1839.
443. Muzzle loading rifle, Russian Cossack Cavalry, 1867, .625 calibre.
444. Punch lock rifle—Loaned by Jefferson Company Historical Society, Watertown, New York, 1830, earliest percussion lock.
445. Springfield smooth bore musket; calibre .59; model, 1842.
446. Pistol carbine, smooth bore, calibre .547, 1851.
447. "Garibaldi" rifled musket, calibre .72.
448. Harper's Ferry rifle, calibre .501, 1860.
449. English Enfield rifle musket, with sabre bayonet; calibre 58.7; model, 1861.

BREECH LOADERS—PAPER CARTRIDGE.

450. Ferguson breech loading rifle 1776, flint lock, used in the Revolution, loaned by General de Peyster, New York.
451. Breech loading flint lock rifle musket (Hall's), calibre 51.2, 1818.
452. Hall's carbine, same system, percussion lock, calibre 64.2, with ramrod bayonet.
453. Single shot gun, Perry's patent 1856, 15 bore.
454. Green's bolt gun, calibre .535, paper cartridge, 1857.
455. Breech loading rifle, calibre. 61. Doersch German patent, with bayonet.
456. Muzzle loader converted to breech loader, 70 calibre. Experimental.
457. Breech loading rifle, 41 calibre, rim-fire, faucet breech, by Bentley, England.
458. Breech loading carbine, faucet breech 43 calibre. C. W. Howard.
459. French chassepot carbine, calibre .45. Paper cartridge.

Exhibit
No.

460. Needle gun, German, calibre, .555 (De).
 461. Dreyse's improved needle gun, calibre .605.

BREECH LOADERS—METALLIC AMMUNITION.

462. Burnside rifle carbine, calibre .54, 1856.
 463. Morse's system, 1858; Wilson and Flather's alteration of smooth bore; calibre .58.
 464. Breech loading carbine. Breech slides in vertical mortise; Allen's patent, 1860, 40 calibre.
 465. Breech loading rifle musket (unknown) 1863, calibre .50.
 466. Breech loading rifle, 50 calibre rim fire; D. Moore's patent, 1861.
 467. Single shot gun; Stevens' patent, 1864, 13 bore.
 468. Breech loading carbine, barrel turns on longitudinal pin; A. H. Rowe, 50 calibre, 1864.
 469. Breech loading carbine, breech swings sideways to left; Berdan's patent, 45 calibre, 1865.
 470. Breech loading rifle, E. Lindner's patent, .537 calibre; Austrian metallic cartridge, 1867.
 471. Breech loading carbine, lifting and sliding breech; Root's patent, 1867, 50 calibre.
 472. Muzzle loader converted to breech loader, 58 calibre; Root and Lord's patent, 1868.
 473. Breech loading rifle, 45 calibre, Van Choate's patent, 1869.
 474. Breech loading carbine, swinging breech and sliding striker.
 475. Russian Berdan breech loading rifle and bayonet, calibre .42, 1870.
 476. Breech loading rifle, 42 calibre Berdan's system, Russian Army "Slambang."
 477. Breech loading rifle "Werder," Bavarian, calibre .45.
 478. Remington rifle, Cadet, calibre .50; skeletonized frame.
 479. Austrian, Werndl rifle, calibre .45, 1872; sabre bayonet.
 480. Pierie breech loading rifle.
 481. Peabody breech loading rifle, calibre .45.
 482. Mauser rifle, German, calibre .45, 1871.
 483. French Gras rifle, calibre .433; model, 1874.
 484. Lee gun; calibre .45, 1875.
 485. Martini Henry rifle, calibre .45.
 486. Springfield rifle, calibre .45; trowel bayonet.
 487. Springfield rifle, calibre .45; ramrod bayonet.
 488. Springfield rifle, calibre 30, 1891.
 489. A collection of arms showing different models used during the War of the Rebellion is also exhibited.

REPEATING ARMS.

(Old form with several charges in one barrel.)

490. Ellis' repeating flint lock muzzle loading rifle, calibre .54.
 Revolving arms.

Exhibit
No.

- 491. Revolving rifle, flint lock, .56 calibre, 5 shots, Collier patent, 1818.
- 492. Whittier revolving rifle; date about 1835.
- 493. Colt's revolving rifle, five shots, with sword bayonet, calibre .56, 1857.
- 494. Swingle revolving repeating rifle, 1880.
Tubular magazines in butt stock.
- 495. Spencer magazine carbine, old model, calibre .52; skeletonized.
- 495a. Clemens magazine on Springfield rifle, 1878.
- 496. Hotchkiss magazine rifle, calibre .45.
- 497. Chaffee Reece magazine rifle, calibre .45, 1881.
Tubular magazine along barrel.
- 498. Punch lock rifle with magazine for paper cartridges and percussion pellets, unknown. (Loaned by Mr. E. Thomas, Chicago, Ill.)
- 499. Henry magazine rifle, sliding carrier block, calibre .42; old model.
- 500. Ball's breech loading magazine carbine, calibre .50, 1863.
- 501. Scott or Triplett magazine rifle, calibre .50; about 1870.
- 502. Breech loading carbine, .42 calibre, magazine on side; Stickney's patent, 1872.
- 503. Winchester magazine rifle, calibre .45; military model, 1876.
- 504. Swiss Vetterlin magazine rifle, calibre .40; about 1868; adopted by Switzerland for its corps d'elite.
- 505. Ward Burton magazine rifle, calibre .45; 1873; rocking carrier.
- 506. Remington-Keene magazine rifle, calibre .45; tested by magazine gun board of 1881.
- 507. Swiss or Belgian parlor magazine rifle, 10 shots, calibre .36.
- 508. Spencer repeating shot gun, 12 bore, 1881.
- 509. Winchester repeating shot gun.
- 510. Magazine rifle, German Mauser, calibre 11 millimeters.
- 511. Kropatschek, Portugal.
- 512. Murata, Japan.

QUICK LOADERS.

These are not strictly repeating arms, but they form a link between the tubular magazines mentioned above and box-magazines, the latest development of magazine arms, given below:

- 513. Colonel J. G. Benton's quick loader, fixed, 1870.
- 514. General Hagner's quick loader, fixed, 1874.
- 515. Jas. B. Stillman's quick loader, fixed, 1874; two forms.
- 516. Ira Merrill's quick loader, fixed, 1884.
- 517. Colonel Benton's detachable quick loader, 1873.
- 518. Captain Metcalf's detachable quick loader and cartridge packing block.

BOX MAGAZINE RIFLES.

- 519. Lee magazine rifle; calibre .45; the earliest detachable box-magazine.
- 520. Livermore-Russell rifle, calibre .45; the earliest fixed box-magazine used with a loading clip.
- 521. Breech loading rifle, .45 calibre; Franklin's detachable magazine, 1887.

**Exhibit
No.**

- 522. Lee-Speed, England.
- 523. Krag-Jorgensen, Denmark.
- 524. Mannlicher, Austria.
- 525. German model, 1888.
- 526. Schmidt, Switzerland.
- 527. Mannlicher carbine, Austria.
- 528. Mannlicher, Roumania.
- 529. Sporer.
- 530. Bruce.
- 531. Mauser.
- 532. Rubin, H., Swiss, 1888.
- 533. Schulhoff (Austrian), 1888.
- 534. Mannlicher (Austrian), calibre .303, 1888.
- 535. Berthier magazine rifle, (French). Loaned by Hotchkiss Ordnance Co.
- 536. Also a number of other guns brought before the recent United States magazine gun boards.

PISTOLS AND REVOLVERS ON BOARDS—PISTOLS.

- 537. Ellis breech loading pocket pistol, patented, 1859.
- 538. Pocket pistol, smooth bore flint lock, cannon shaped muzzle, calibre .45.
- 539. Pocket pistol, rifled, calibre about .25.
- 540. Pistol for firing signal lights, model, 1861; signal light held in place by spring under barrel; fired by percussion caps.
- 541. Revolving pistol, "pepper box," percussion; self cocking.
- 542. Remington, breech loading, rifled, calibre .50; metallic cartridge.
- 543. Derringer (United States Navy), calibre .54; smooth bore, 1847.
- 544. Army, smooth bore flint lock, 1836, calibre .535; made by R. Johnson, Middletown, Conn.
- 545. Army, smooth bore flint lock, 1841, calibre .545; made by R. Johnson, Middletown, Conn.
- 546. Army, smooth bore, percussion, 1844, calibre .547; altered from flint lock; made by R. Johnson, Middletown, Conn.
- 547. Army, smooth bore, percussion, calibre .525; made by A. H. Waters & Co., Millbury, Mass.
- 548. French, smooth bore flint lock, 1830, calibre .66; made at Mutzig.
- 549. French, smooth bore, percussion, 1848, calibre .66.
- 550. "Springfield," smooth bore, percussion, 1842, United States model, No. 4, calibre .545.
- 551. Army, smooth bore, percussion, 1851, calibre .55; model, 1842; made by H. Aston & Co., Middletown, Conn.
- 552. Prussian, smooth bore, percussion, 1867, calibre .66; presented to the United States by the Prussian government.
- 553. Dueling (English), smooth bore, percussion, calibre .53.

Exhibit
No.

- 554. Springfield, rifled (model 1855), calibre .58; Maynard primer, fitted for detachable stock.
- 555. Springfield breech loading, rifled, model 1868, calibre .50; experimental.
- 556. Springfield, breech loading, rifled, model 1868, calibre .50; experimental.

ARMY AND NAVY REVOLVERS—USING PAPER CARTRIDGES.

- 557. Remington, calibre .44; used largely in the Rebellion.
- 558. Remington, calibre .44.
- 559. Wesson and Leavitt, calibre .35; first revolver patented after Colt's; made by "Massachusetts Arms Company," Chicopee Falls, Mass.
- 560. Joslyn, calibre .44; skeletonized; takes same cartridge as Colt's.
- 561. Beall, calibre .44; bears close resemblance to the Remington.
- 562. Colt, calibre .44; used for experimental blueing.
- 563. Adams (English), calibre .44; patented, 1856.
- 564. Starr, calibre .44; self-cocking, set trigger.
- 565. Starr, calibre .44; self-cocking, set trigger.
- 566. Starr, calibre .44; self-cocking, set trigger.
- 567. Dreyse—"Needle," calibre .35.
- 568. Dreyse—"Needle," calibre .35.
- 569. Allen and Wheelock, calibre .44.
- 570. Allen and Wheelock, calibre .44.
- 571. Starr, calibre .44; self cocking, set trigger.
- 572. Colt, calibre .44.
- 573. Joslyn, calibre .44.
- 574. Joslyn, calibre .44; skeletonized.
- 575. Savage, calibre .3625; self cocking.
- 576. Pettengill, calibre .44.
- 577. Savage, calibre .3625; self cocking.
- 578. Savage, calibre .3625; self cocking.

ARMY AND NAVY REVOLVERS USING METALLIC CARTRIDGES.

- 579. Lefauchaux (French), calibre .35; "pin-fire."
- 580. Christensen (Danish), calibre .44; "pin-fire."
- 581. Remington, calibre .44. Originally used with paper cartridges. Converted for use of triangular metallic cartridge; experimental.
- 582. Remington, calibre .44; shows alterations for metallic ammunition.
- 583. Colt, calibre .44. Originally used with paper cartridge. Shows alterations for metallic ammunition, and mode of ejecting shell.
- 584. Colt, calibre .44; shows alterations for metallic ammunition.
- 585. French model, 1873, calibre —; made at St. Etienne.
- 586. Colt, calibre .36; shows alterations for metallic ammunition.
- 587. Colt, calibre .44; shows alterations for metallic ammunition.

**Exhibit
No.**

- 588. Lefauchaux (French), calibre .44; "pin-fire."
- 589. Perrin (French), calibre .44.
- 590. Perrin (French), calibre .44.
- 591. Perrin (French), calibre .44.
- 592. Smith and Wesson, calibre .43; Russian model.
- 593. Schofield-Smith and Wesson, calibre .45; United States service pattern.
- 594. Smith and Wesson, calibre .44.
- 595. Sharps, calibre .44; private property.
- 596. Colt, calibre .45; United States service pattern.
- 597. Colt, calibre .45; United States service pattern; skeletonized; presented to National Armory Museum by General Franklin, March 12, 1875.
- 598. Colt, calibre .44; shows alterations for metallic ammunition.
- 599. Colt, calibre .44; shows alterations for metallic ammunition, and improved mode of ejecting shell.
- 600. Remington, calibre .44; "pin-fire;" swinging shell extractor.
- 601. Remington, calibre .44; invented by Dr. Hay, and submitted by Brig.-Gen. R. Williams. Dr. Hay's Patent Safety Lever. See arrangement near trigger.
- 602. Remington, calibre, 44; shows alterations for metallic ammunition.
- 603. Remington, calibre, 44; shows alterations for metallic ammunition.
- 604. Remington, calibre, 44; shows alterations for metallic ammunition.
- 605. Starr, calibre, 44; shows alterations for metallic ammunition.
- 606. Remington, calibre, 44; shows alterations for metallic ammunition.
- 607. Schofield-Smith and Wesson, calibre, 45; unserviceable; used for experimental bluing.

PISTOLS AND REVOLVERS IN SHOW CASE.

- 608. Prussian needle revolver, paper cartridge, calibre, 40.
- 609. Old Japanese revolver.
- 610. Colt's new army revolver, with holster.
- 611. Old Spanish petronel, flint lock, bell muzzle.
- 612. Muzzle loading pistol, calibre, 56, with magazine for pellets of fulminate, Alexander Forsyth's patent, 1807.
- 613. Multi-barrel, percussion cap pistol, rifled, diverging barrels, calibre, 43. English.
- 614. Pepper box, 8 shot, 31 calibre; hammer on top.
- 615. Pepper box, 6 shot, 31 calibre; hammer on bottom; Bacon & Co., Conn.
- 616. Pepper box, 8 shot, 22 calibre; Rupertus patent, 1864.
- 617. Pocket pistol, four barrels, 32 calibre; Elliott's patent, 1860, New York.
- 618. Pocket pistol, four barrels, 22 calibre; Sharp's patent, 1852, Pennsylvania.
- 619. Colt's revolver, pocket, skeleton, 5 shot.
- 620. Derringer, muzzle loader, 38 calibre, 1870.
- 621. American percussion cap pistol, 31 calibre.
- 622. American percussion cap pistol, 36 calibre.

Exhibit

No.

- 623. American percussion cap pistol, 31 calibre.
- 624. Pistol for metallic cartridges, 32 calibre.
- 625. Revolver for metallic cartridges, 32 calibre, Liege, Belgium.
- 626. French revolver, metal cartridges, 35 calibre; Abadie system.
- 627. Pocket revolver, metal cartridges, 32 calibre, double action, concealed hammer, folding trigger, "Baby."
- 628. Colt, old model, navy revolver, extension stock, with canteen.
- 629. American revolver, metal cartridge, 45 calibre, National, New York.
- 630. American revolver, metal cartridge, 32 calibre, Massachusetts.
- 631. German revolver, Mauser, 41 calibre.
- 632. German revolver, Mauser, 45 calibre, simultaneous ejector.

GUN LOCKS.

- 633. Flint lock, revolution.
- 634. United States flint lock, Springfield, 1814.
- 635. United States flint Lock, Springfield, 1836; altered for peculiar main spring and sear.
- 636. United States percussion lock, Pittsburg. Original model of Maynard primer lock, invented by Dr. Maynard in 1853. From this the musket lock, model 1855, was perfected at the Springfield armory.
- 637. United States percussion lock, Springfield, 1831; altered for Maynard primer.
- 638. Unfinished model of Maynard primer lock.
- 639. United States percussion lock (Cadet), Springfield, 1854.
- 640. United States percussion lock, Springfield, model 1842.
- 641. United States percussion lock (Cadet), Springfield, 1856; model 1855; Maynard primer.
- 642. United States percussion lock, Springfield, 1860; model 1855; Maynard primer.
- 643. United States percussion lock, Springfield, 1860; model 1855; Maynard primer.
- 644. United States percussion lock, Springfield, 1860; model 1855; nickel-plated.
- 645. United States percussion lock, Springfield, 1861.
- 646. United States percussion lock, Springfield, 1861; browned.
- 647. United States percussion lock, Springfield, 1864.
- 648. United States percussion lock, Springfield, 1862.
- 649. United States lock, Springfield; for breech loader.
- 650. United States lock, Springfield, model 1866. This lock was taken from an unserviceable breech loading rifle, model 1866, sent to the armory for repair in January, 1871. The ingenious device of a tapering screw in the lock-plate to regulate the dip of the sear nose was made by the soldier.
- 651. United States lock, Springfield, model 1866.
- 652. United States lock, Springfield, 1870; with safety notch in tumbler made after the plan of Mr. Locke, Salem, Mass., June, 1870.

**Exhibit
No.**

- 653. United States lock, Springfield, nickel-plated, model 1868.
- 654. United States lock, Springfield, model 1873.
- 655. United States lock, Springfield, model 1884; safety notch in tumbler.
- 656. Confederate States percussion lock, Richmond, Va., 1862.
- 657. Sharps' percussion lock, for paper cartridge; C. Sharps' patent, October 5, 1852. Lawrence primer, R. S. Lawrence's patent, April 12, 1859.
- 658. Sharps' lock, for metallic cartridge.
- 659. Joslyn lock, for metallic cartridge; Joslyn Fire Arms Company, Stonington, Conn.
- 660. Joslyn lock, for metallic cartridge; face of hammer differs from No. 659. Joslyn Fire Arms Company, Stonington, Conn.
- 661. English percussion lock, Tower, 1861.
- 662. Spencer lock, for metallic cartridge.
- 663. Starr lock, for metallic cartridge; Starr Arms Company, Yonkers, N. Y.
- 664. Unknown model; trunnions on sear; probably foreign.
- 665. Left hand percussion lock, "J. Bishop" on plate.
- 666. Confederate States percussion lock, 1863. Cook & Brother, Athens, Ga., No. 3,086.
- 667. Confederate States percussion lock, Fayetteville, 1864.
- 668. United States percussion lock. Colt's Patent Fire Arms Manufacturing Company, Hartford, Conn.
- 669. Confederate States percussion lock.
- 670. Prussian percussion lock; made at Potsdam.
- 671. United States percussion lock; two hammers for single barrel; Lindsay's patent.
- 672. Ancient flint lock of supposed Spanish origin; eighteenth century; presented to the National Armory Museum by Mr. Samuel Powell, of Newport, R. I., through Capt. Howard Stockton, November 15, 1871.
- 673. Albanian flint lock.

TROWEL BAYONETS.

- 674. Rice trowel bayonet, first models; nickel-plated; blade welded to triangular bayonet, 1868.
- 675. Intrenching knife and scabbard; prepared under the direction of Col. J. G. Benton, September, 1879.
- 676. Combination bayonet; designed by Col. J. G. Benton, January 12, 1878.
- 677. Combination bayonet, with steel scabbard.
- 678. Dahlgren bowie-knife bayonet; from Naval Bureau of Ordnance.
- 679. Trowel bayonet scabbard; designed and made by L. F. Bruce, December 8, 1879.

AMMUNITION.**SERVICE PROJECTILES.**

- 680. 12-inch breech loading rifle, solid shot.

Exhibit

No.

- 681. 12-inch breech loading rifled mortar shell, 630 pounds.
- 682. 12-inch breech loading rifled mortar shell, 800 pounds.
- 683. 12-inch breech loading rifled mortar shell, fired and recovered.
- 684. 10-inch breech loading rifle cored shot.
- 685. 8-inch breech loading rifle cored shot.
- 686. 7-inch breech loading rifled howitzer shell.
- 687. 5-inch breech loading rifle shell.
- 688. 3.6-inch breech loading rifle shell.
- 689. 3.6-inch breech loading rifle shell, fired and recovered.
- 690. 3.6-inch breech loading rifle shell for point fuse.
- 691. 3.2-inch breech loading rifle shell.
- 692. 3.2-inch breech loading rifle shell for point fuse.
- 693. 3.2-inch Hotchkiss shrapnel.
- 694. 3-inch Hotchkiss shrapnel.
- 695. 6-pounder Driggs-Schroeder armor piercing shell.
- 696. 6-pounder Seabury common shell.
- 697. 6-pounder Hotchkiss common shell.
- 698. 3.6-inch shrapnel with fuse.
- 699. 3.2-inch shrapnel with fuse cut.
- 700. Maxim Nordenfeldt 6 pounder with fuse cut.

ELECTRIC WELDED PROJECTILES.

(Loaned by the American Projectile Co.)

- 701. 12 black enameled 4-inch steel common shell; navy.
- 702. 4-inch steel common shell; navy.
- 703. 4-inch steel common shell, with section removed to show interior; navy.
- 704. 4-inch steel common shell for carrying high explosives; navy.
- 705. 4-inch shrapnel.
- 706. Piece of 4-inch tubing from which 4-inch common shell are made; navy.
- 707. 3.2-inch shrapnel; army.
- 708. 3.2-inch shrapnel with section removed to show interior; army
- 709. 3.2-inch shrapnel fired, uninjured; army.
- 710. 57 millimetres (6-pounder); army.
- 711. 57 millimetres with section removed to show interior; army.
- 712. 57 millimetres, rough, before finishing; army.
- 713. 6-inch steel common shell with section removed to show interior; navy.
- 714. Piece of 6-inch tubing from which 6-inch shell are made; navy.
- 715. Section of 6-inch tubing from which 6-inch shrapnel are made; navy.

SHELL FOR PNEUMATIC DYNAMITE GUN. (ZALINSKI.)

- 716. 8-inch projectile.
- 717. 15-inch projectile.

CARTRIDGES FOR CANNON.

- 718. Charges for 3-inch muzzle loading rifle.
- 719. Charges for 3.2-inch breech loading rifle.

**Exhibit
No.**

- 720. Charges for 3.6-inch breech loading rifle.
- 721. Charges for 3.6-inch breech loading mortar.
- 722. Charges for 5-inch breech loading rifle.
- 723. Charges for 7-inch howitzer; breech loading.
- 724. Charges for 8-inch rifle; breech loading.
- 725. Charges for 10-inch rifle; breech loading.
- 726. Charges for 12-inch rifle; breech loading.
- 727. Charges for 12-inch breech loading mortar; steel.
- 728. Charges for 12-inch breech loading mortar; cast iron hooped.
- 729. Charges for 7-inch Ames rifle.
- 730. Charges for 8-inch muzzle loading converted rifle.
- 731. Charges for 11-inch muzzle loading converted rifle.
- 732. Charges for 15-inch muzzle loading, smooth bore.

CARTRIDGES FOR SMALL ARMS.

- 733. Samples of reloaded Morse cartridges.
- 734. Board containing 110 samples of projectiles for small arms collected from different nations.
- 735. Twelve boards containing specimens of cartridge manufacture.
- 736. Cabinet containing different kinds of cartridges.

PRIMERS FOR CANNON.

- 737. Board containing 64 samples and specimens, foreign and American manufacture, caps and primers for small arms and cannon.
- 738. Board containing 21 specimens showing effects of firing on cannon.
- 739. Service friction primers.
- 740. Electric primers.
- 741. Obturating primers, friction and electric.
- 742. Vent-sealing Seabury primers.
- 743. Armstrong electric and friction primers.
- 744. German friction primers.

FUSES.

- 745. Frankford Arsenal combination, 28 seconds.
- 746. Frankford Arsenal, percussion.
- 747. French Combination, "Walters."
- 748. Armstrong base percussion.
- 749. Armstrong time and concussion.
- 750. Hotchkiss base percussion, large.
- 751. Hotchkiss base percussion, flat head.
- 752. Hotchkiss base percussion, small.
- 753. Hotchkiss point percussion, large.
- 754. Hotchkiss point percussion, medium.
- 755. Hotchkiss point percussion, small.
- 756. Hotchkiss point percussion, made at Frankford Arsenal.

Exhibit
No.

- 757. Hotchkiss point percussion, 47 millimetres.
- 758. German Krupp, time and percussion.
- 759. German Krupp, percussion.
- 760. Moffat combination.
- 761. Bowman, time.
- 762. Driggs base percussion.
- 763. Schenke percussion, large.
- 764. Schenke percussion, small.
- 765. Danish percussion.
- 766. Swiss combination.
- 767. Swiss field.
- 768. Frankford aluminium combination.
- 769. Dutch combination.
- 770. Russian combination.
- 771. Swedish combination.
- 772. Paper, time fuse, 5 seconds.
- 773. Paper, time fuse, 8 seconds.
- 774. Paper, time fuse, 10 seconds.
- 774a. Paper, time fuse 15 seconds.
- 775. Paper, time fuse 20 seconds.
- 776. Lead fuse train showing method of manufacture.

SERVICE TOOLS AND EQUIPMENTS.

- 777. Set of hand reloading tools.
- 778. Set of bench reloading tools.
- 779. Mill's small arms cartridge belts.
- 780. Headless shell extractor.
- 781. Inspecting mirror for Springfield rifle.
- 782. Dodge's blanket roll support.
- 783. Merriam's knapsack.

SHOOTING GALLERY AND BALLISTIC MACHINES.
PRESSURE OF POWDER IN GUNS.

- 784. Bomford & Wade's experimental gun, 3-inch cast iron, illustrating early methods of obtaining powder pressures.
- 785. Six-pounder bronze gun tapped for wall pressures.
- 786. Small eprouvette mortar with copper shot in muzzle.
- 787. Crusher gauge for muzzle loading guns, large.
- 788. Crusher gauge for muzzle loading guns, small.
- 789. Crusher gauge for breech loading guns, large.
- 790. Crusher gauge for breech loading guns, small.
- 791. Rodman pressure gauge.

MEASUREMENT OF VELOCITY.

- 792. Gun pendulum (model).
- 793. Shultz chronoscope.

**Exhibit
No.**

- 794. Navez-Leurs chronograph.
- 795. Vignotti chronograph.
- 796. Benton thread and electric velocimeter.
- 797. Le Boulenger chronograph.
- 798. Breger chronograph.
- 799. Sebert velocimeter with instrument for reading record.
- 800. Drop chronograph.
- 801. Self-registering projectile.

RANGE FINDERS.

- 802. Watkin's depression range finder.
- 803. Paddock's interpolator.
- 804. Watkin's field range finder.
- 805. Gautier's telemeter.
- 806. Weldon range finder.
- 807. Pratt range finder.
- 808. Gordon range finder.
- 809. Russell range finder, combination.
- 810. Russell range finder, triangular.
- 811. Richards' hand telescope for stadia work.
- 812. Labbez range finder.

INSTRUMENTS FOR AIMING GUNS.

- 813. Zalinski sight (old).
- 814. Zalinski sight (new).
- 815. Loraine sight.
- 816. Frankford Arsenal sight for field guns.
- 817. Gunners' quadrant.
- 818. Pointing rod for 3.6 mortar (field).
- 819. Belgian aiming device.

MEASURING INSTRUMENTS.

- 820. Opisometer for measuring lengths.
- 821. Micrometer for measuring surface lengths.
- 822. Set of measuring rods, interior diameters, micrometer points.
- 823. Adjustable measuring rods.
- 824. Star gauge for measuring interior diameter of guns.
- 825. Cylinder gauge.
- 826. Chamber gauge.
- 827. Gas check seat gauge.
- 828. Ring gauges for 3-6-inch shrapnel.
- 829. Profile templet for 3-6-inch shrapnel.
- 830. Eccentric calipers for shell.
- 831. Brass thickness gauge.
- 832. Exterior and interior rests (Flagler) for star gauge.

Exhibit
No.

- 833. Caliper arm, steel and wood, for diameters of heavy guns, micrometer points.
- 834. Supporting saddle and suspension ring for caliper arms.
- 835. Vernier calipers, capacity 36 inches.
- 836. Special instrument for measuring large diameters to within .0001 inch.
- 837. Instrument for measuring extension and compression.

MACHINES IN OPERATION.

- 838. Springfield armory gun making machines.
- 839. Turning butt of stock.
- 840. Bedding stock for barrel.
- 841. Planing stock.
- 842. Bedding stock for lock.
- 843. Bedding stock for trigger guard.
- 844. Rotary filing of receivers.
- 845. Profiling trigger guard.
- 846. Rifling barrels.
- 847. Milling metal parts.
- 848. Rotary for clamp milling.
- 849. Turning exterior of barrels.
- 850. Drilling bore of barrels.
- 851. Gas furnace.
- 852. Drop hammer. Loaned by Merrill Bros., Brooklyn, N. Y.

FRANKFORD ARSENAL CARTRIDGE MACHINES.

- 853. Double acting press, cutting and cupping blanks for shell
- 854. Draw press, drawing out shell.
- 855. Heading machine, making flange of shell.
- 856. Filling and foiling primers.
- 857. Priming shells.
- 858. Making bullets, calibre .45.
- 859. Assembling bullets, calibre .30.
- 860. Loading cartridges.
- 861. Weighing cartridges.
- 862. Gauging cartridges.

TESTING MACHINES IN OPERATION.

- 863. Selier's Testing Machine; Emery's patents; capacity 100 tons. Hydraulic power.
- 864. Riehle Bros.' Testing Machine, capacity 100 tons. Screw power.

SAMPLES OF TESTED MATERIAL FROM WATERTOWN
ARSENAL.

- 865. Old steel rails bent transversely, showing effects due to continued service.
- 866. Hemp and manilla ropes and hawsers of large size tested in tension.

**Exhibit
No.**

- 867. Set of initial tension rings from 12-inch cast iron mortars, body and diagram.
- 868. Set of steel and cast iron specimens strained alternately in tension and compression.
- 869. Leather, rubber and cotton belting tested in tension.
- 870. Specimens of chain cable broken in tension.
- 871. Yellow pine post tested in compression.
- 872. Spruce post tested in compression.
- 873. Cylindrical cast iron column 10 feet long by 6 inches diameter; core 3.95 inches diameter; tested in compression.
- 874. Square cast iron column 10 feet long by 6 inches by 6 inches; core 4.39 inches by 5 inches.
- 875. Latticed steel column, height 23 feet 10.57 inches; area, 12.95 square inches.
- 876. Phoenix wrought iron column, height 25 feet 2.65 inches. Diameter cylinder 11.8 inches; diameter over flanges 15.5 inches.
- 877. Brick piers, showing relative strength when laid in lime mortar and neat cement.
- 878. Brick piers, showing relative strength with brick laid flat and on edge.
- 879. Brick piers, showing effect of enlarging at bottom.
- 880. Riveted joints of $\frac{1}{2}$ inch, $\frac{3}{8}$ inch and $\frac{1}{4}$ inch boiler plate.
- 881. Eye bar, showing reduction of cross section before rupture.
- 882. Set of specimens of cast iron, wrought iron and steel, with from .09 per cent to .9 per cent of carbon, showing effect of temperature on strength, with diagram.

RELICS.

- 883. Case containing two bullets which met in mid-air.
- 884. Board containing two bullets and one medallion. One bullet British and one American found on battle-field at Lundy's Lane, Canada.
- 885. Sword presented by General Washington to General Lafayette. Loaned by Captain Borup, United States Army.
- 886. Old percussion pistol for firing cannon. Loaned from Washington Headquarters, Newburgh, N. Y.
- 887. Section muzzle loading rifle barrel, containing five charges of powder and balls.
- 888. 12 Old Muskets; relics of the Rebellion.
- 889. Springfield rifle, model 1873 "Officers"; used at Little Big Horn.
- 890. Springfield rifle, model 1868; captured from Indians.
- 891. Springfield breach loading musket; fired 20,119 times.
- 892. Specimen wrought iron tube used for converting smooth bore cast iron guns into rifles.
- 893. Confederate torpedo, from Light House Inlet, Charleston, S. C.
- 894. Confederate torpedo; one of those stretched across the Louisville road, Savannah, Ga.

Exhibit
No.

- 895. Confederate torpedo, Tretwell's, percussion.
- 896. Confederate torpedo, intended to sink the United States gunboats at blockade mouth of St. John River, Florida.
- 897. Gun carriage wheel struck by ball; Duncan's battery. Mexican war.
- 898. Flag wrapped around wheel; Duncan's battery.
- 899. French shell from battle-field of Solferino, lead studs.
- 900. Sigourney shell, American, flanged.
- 901. Sawyer fired shell, flanged.
- 902. Wheat's shell, copper, flanged.
- 903. Whitworth's blind shell.
- 904. Whitworth's long shell.
- 905. Confederate Armstrong shell captured at Fort Fisher.
- 906. Confederate shell, copper band on base, flanged.
- 907. Confederate shell, lead band on base, flanged.
- 908. Laidley's shell.
- 909. Henry shot, copper band.
- 910. Allen shot.
- 911. Reed's shell.
- 912. Dimick shell, fired.
- 913. Fifteen-inch steel spherical shot fired against wrought iron target at Sandy Hook, N. J.
- 914. Gorgas shell.
- 915. Lawson shot.
- 916. Jones' shot.
- 917. James' canister.
- 918. Hotchkiss shot, fired.
- 919. Hotchkiss canister.
- 920. Absterdam shell.
- 921. Parrott shell iron cup.
- 922. Parrott shell, fired, brass band, shell cut.
- 923. Hotchkiss shell, brass cup in section.
- 924. Schenkl shell.
- 925. Confederate wrought iron shot.
- 926. Confederate shell, brass and wood base, dowelled.
- 927. Confederate shot, corrugated brass band at base.
- 928. Confederate shell, two copper bands.
- 929. Confederate shell, copper cup with long wood sabot at base.
- 930. Confederate shot, lead band, wood base.
- 931. Abbot's blind shell, iron and lead, disc on base.
- 932. Confederate shot, lead and wood bands.
- 933. Confederate shell, lead.
- 934. First shot fired from Fort Sumter, found in the quarters of General Beauregard.
- 935. First shot fired at Fort Sumter, Blakely projectile.
- 936. Small cannon balls found at Fort Montgomery, revolutionary.

Exhibit
No.

- 937. Hammered copper balls, Mexican.
- 938. Confederate shell cut on section, lead base.
- 939. Butler Shrapnel cut; one section.
- 940. Butler cored shot cut; one section.
- 941. Arrick cored shot.
- 942. Dana cored shot.
- 943. Brass ring for 8-inch Butler shot, fired.
- 944. Brass ring for 8-inch Arrick shot, fired.
- 945. Brass ring for 8-inch Dana shot, fired.
- 946. Krupp breech loading field shell, body covered with lead.
- 947. Breech loading shot, fired, copper wire bands.
- 948. Patterson breech loading shot, leather band.
- 949. Lindner's breech loading shot, lead bands with webbing between.
- 950. Confederate breech loading shot, rope band.
- 951. Mann's breech loading shot.
- 952. Stafford's steel faced shot, iron band around air cavities.
- 953. 12-inch steel shot.
- 954. Confederate case shot, ratchet sabot with iron washers; plug with leather washers, and tin tube soldered to plug for bursting.
- 955. Confederate shot 4-pounder, wire band, lead bound.
- 956. Ritner and Day lead shot, fired through 4½-inch wrought iron plate.
- 957. Confederate shot pierced all over with holes.
- 958. Confederate case shot cut.
- 959. Confederate percussion shell incased.
- 960. Stafford's shell, brass band or wheel in front, brass cup at base.
- 961. 12-pounder spherical glass shot.
- 962. 12-pounder elongated glass shot.
- 963. Ketchum hand grenade.
- 964. United States Dyer shell, lead sabot, 11-pounder.
- 965. 6-pounder United States Hotchkiss shell, compressed lead band.
- 966. Brooke's confederate shell, 7-inch.
- 967. 20-inch shell for Rodman gun, with sabot.
- 968. Chain shot with cavity for chain.
- 969. Chain shot in four parts held by ring.
- 970. Chain shot with 2 shot attached.
- 971. Chain shot and case.
- 972. McIntyre's repeating shell for rifle, fired.
- 973. Puffer's incendiary shell.
- 974. Flemming's incendiary shell.
- 975. Cochran's diagonal flanged shell, 2 lead bands around base.
- 976. Abbot's elongated shell for smooth bores.
- 977. Old pattern carcass.
- 978. 12-pounder quilted grape shot.
- 979. Bag of cut links.
- 980. 10-inch wooden shell for pyrotechny.

Exhibit**No.**

- 981. 10-inch paper shell for pyrotechny.
- 982. War rocket.
- 983. Parachute rocket.
- 984. 10-inch light ball.
- 985. Junk wad.
- 986. Hay wad.
- 987. Grommet wad.
- 988. Experimental diagonal flanged shot, iron and wood sabot.
- 989. 10-inch Confederate wrought iron projectile for smooth bores.
- 990. Confederate Maury projectile for smooth bore guns, chilled iron, air passage through center.
- 991. Confederate cast iron shot for smooth bore guns, weight 25 pounds.
- 992. Confederate winged shot from battle-field of Tennessee.
- 993. Experimental shot, diagonal flanges.
- 994. Smith's flanged shot, fired at West Point, New York.
- 995. Wooden flanged shot.
- 996. Hugerion shell, fired at West Point, New York.
- 997. Turbine shot, air passage through center.
- 998. Confederate shot, wire through center.
- 999. Stand of grape shot, 12 pounder.
- 1000. 6-pounder canister, model unknown.
- 1001. 6-pounder spherical case shot and sabot.
- 1002. 12-pounder gun shell and sabot.
- 1003. 8-inch English spherical case shot and sabot.
- 1004. English Boxer projectile and sabot.
- 1005. 24-pounder carcass.
- 1006. Oak tree cut down by bullets at Spottsylvania. Loaned by the Smithsonian Institute.

SIGNAL SECTION.

(This exhibit is to be found in the Government Main Building.)

- 1007. Aerial transportation. Military balloon train.
- 1008. Application of the telephone to military signaling.
 - a Field telephone kit.
 - b Knapsack, telephone.
 - c Reel carts, telephone.
- 1009. Electric telegraph and signals. Miscellaneous instruments, tools, implements and materials pertaining to military telegraph lines.
- 1010. Military meteorological instruments.
 - Artillery anemometer.
- 1011. Optical instruments.
 - a Glasses, field.
 - b Glasses, signal.
 - c Glasses, marine.

Exhibit

- No.**
- d* Glasses, eye.
Telescopes and holders.
 - 1012. Signaling implements (visual).**
 - a* Flags.
 - b* Heliographs.
 - c* Lanterns.
 - d* Torches.
 - 1013. Oil paintings.** Depicting life and exploration in the Arctic regions.
 - 1014. Photographs.** Enlargements of Arctic negatives.
 - 1015. Tableau and scene** illustrative of the method by which the flag of the United States has been carried to the "Farthest North" (Greely expedition), with grouping of relics and material used by Arctic explorers.

NAVY DEPARTMENT.

MODEL BATTLE SHIP "ILLINOIS."

1. This structure, the suggestion of Commodore R. W. Meade, United States Navy, contains the greater part of the Navy Department exhibit.

In outside appearance it is identical with the coast-line Battle Ships "Indiana," "Massachussetts" and "Oregon." The following are the principal data: Length, 348 feet; extreme breadth, 69¼ feet; draught, 24 feet; displacement, 10,231 tons; twin screws, 9,000 I. H. P.; sea speed, 15 knots; armament, four 13-inch B. L. R.; eight 8-inch B. L. R.; four 6-inch B. L. R.; twenty 6 pdr. R. F.; six 1-pdr. R. F.; two Gatlings, and Whitehead or Howell Automobile torpedoes. All guns except 13-inch and 8-inch are service guns. The heaviest armor is 18-inch, lightest 3-inch; all vital parts are protected.

The "Illinois" is built in Lake Michigan on a substantial foundation of piling and heavy timbers. The sides of hull are brick covered with cement. The sides of the superstructure, the 13-inch and the 8-inch redoubts, turrets, and guns are wood framing covered with cement; all other parts of hull and fittings are, as nearly as possible, like those of coast-line Battle Ships. Nothing is shown below the berth deck, which rests on timber framing over pile heads, making it impossible to exhibit any of the motive power.

BUREAU OF CONSTRUCTION AND REPAIR.

Exhibit
No.

2. Hull and Fittings.

Hull proper, with berth deck, main deck, superstructure deck, pilot house, conning tower and military mast.

Turrets, redoubts and sponsons.

Anchor davits, compressors, chocks, cable and hawser bitts, nippers, capstans, winches and windlass.

Exhibit
No.

Boat cranes, boat davits, skids and chocks.
 Awning and deck stanchions.
 All rails, ladders, hatches, hatch coamings, hatch canopies and gratings.
 Skylights and air ports.
 Ventilators and cowls.
 Pumps, water tight bulkhead doors.
 Magazine and shell rooms, with flood cocks and overflow pipes.
 Steering gear with stands, wheels and indicators.
 All internal fittings for quarters of officers and men, and reserved spaces, such as sick bay, offices, armory, torpedo-rooms, store-rooms, closets and coal bunkers; and generally all that pertains to the construction and fitting of hull for use as a vessel of war.

3. Boats and Gear.

One balsa, 18 feet.
 One steam cutter, 30 feet.
 One steam cutter, 33 feet (both steam cutters fitted to carry spar torpedoes).
 One cutter, 24 feet.
 One cutter, 26 feet.
 Two cutters, 28 feet.
 Two dinghys, 20 feet.
 One whaleboat gig, 30 feet (commanding officers' boat).
 Two whale boats, 29 feet.
 One sailing launch, 32 feet.

With the following gear, most of which is common to all boats:
 Awning stanchions; backboard; boat chest complete; boat hooks;
 boat breakers and stands; boat buckets; foot boards or gratings;
 oars; rollers; rowlock; rudder; side light boxes; signal mast;
 spars complete; ensign staff, flag staff; boat stretchers; stern benches;
 thwarts; tiller; thole-pins with trailing chains; copper well; windlass
 and bars; and yoke for steering.

Boat in frame (made by bending machine) showing skeleton of 26 foot service cutter.

4. Equipage and Stores.

Anchor and capstan bars.
 Belaying pins.
 Blacksmith's forge.
 Blocks of all kind used in the navy.
 Brushes, cleaning and painting.
 Buckets.
 Butts.
 Carpenter's bench, chest, supplies, and tools.
 Casks.
 Chests.

Exhibit
No.

Cleats.
Diving suit complete, with accessories.
Fenders.
Fire apparatus, complete.
Fishes, mast and yard.
Halliard racks.
Hawser reels.
Hooks.
Hose racks.
Kegs.
Life buoys.
Mess breakers.
Mess kids.
Musket stands.
Ship's bell.
Tubs, galley, starting, and steep.

5. Furniture—United States Navy pattern.

For living spaces of officers and men—
Arm chairs.
Bath tubs.
Beds complete.
Benches.
Book cases.
Bureaus.
Camp chairs.
Camp stools.
Center tables.
Dining chairs.
Dining tables.
Easy chairs, high and low.
Mess tables.
Office desks.
Sideboards.
Sofas.
Stateroom chairs.
Swivel chairs.
Toilet racks.
Towel racks.
Wardrobes.
Washstands, complete.
Writing desks.

6. Models.

Battleship, "Oregon."
Coast defenders, "Miantonomah," "Monadnock," "Monterey."
Armored cruisers, "Maine," "New York,"

Exhibit
No.

Protected cruisers, "Baltimore," "Charleston," "Newark," "Olympia,"
"Petrel," "Yorktown."

Wooden cruisers, "Colorado," "Kearsarge."

Special vessel, dynamite cruiser "Vesuvius."

Section models, section of United States Steamer "Raleigh," showing
airport.

Bow section of "Chicago."

Midship section of "Chicago."

Section of fire room of a belted cruiser, showing boiler and coal bunker.

BUREAU OF EQUIPMENT.

7. Outfit and stores, boatswain's.

Anchors, boat, bower, kedge, stream

Buoys, anchor, kedge.

Chains, boat, bower, sheet.

Falls, boat, compressor, cat, decktackle, fish, stock and bill tackle.

Grain.

Grapnels.

Hanks.

Harpoon.

Hawsers.

Hooks, cat, chain, fish, fishing, sister.

Jackasses.

Rope, samples of each kind used in the navy.

Screws, jack or riggers.

Stoppers, bitt, boat, cathead, deck claw, deck wire, fighting.

Turning-in machine for wire rigging.

Wheel ropes.

8. Outfit and stores, carpenter's.

Baskets, coal.

Boat stove with cooking utensils.

Fenders, boat, pudding.

Fire grenades.

Galley and fittings.

Irons, hand and leg.

Jackets, cork.

Scrapers.

Slings, canvas, breeches, channel.

Squillees.

Turnbuckles.

Wire awls.

9. Outfits and stores, sailmaker's.

Awnings, ship, boat.

**Exhibit
No.**

Bags, coal, clothes, hammock, mess, peajacket.
Bolt rope.
Canvas, samples of each kind used in the navy.
Clews.
Cots, cabin, hospital, wardroom.
Fids, setting and splicing.
Hammocks.
Measuring line.
Needles, seaming, 4, 6, 8, thread.
Palms, roping, seaming.
Sail hook.
Sail knife.
Sail pricker.
Screens, ladder.
Tarpaulins.
Water bag.

10. Electric material and apparatus, United States Navy standard.

Ampere meter.
Ardois signal outfit.
Controlling board.
Dynamos, 16 K. W.
Engines, 16 K. W., with beds.
Ground detectors.
Junction boxes for branches, feeders, and projector mains.
Lamps, 16 c. p., ceiling, portable, projector.
Lanterns, battle, deck, magazine, signal (green, red, white).
Lights, running (masthead, side, towing), stay, top.
Molding for wire.
Motors, ventilating.
Projectors for search lights complete.
Receptacles.
Regulators, hand.
Resistance, adjustable (for search light leads).
Sockets.
Switches.
Switch boards.
Switch and receptacles combined.
Voltmeter.
Wiring complete for incandescent and search lights.
Wire guards for lamps.

11. Flags and signals.

Bunting, samples of each kind used in the service.
Flags, distinctive, president, secretary, flag officers.
Flags of all nations.
Flags, national (ship and boat).

Exhibit
No.

Signals, Ardois.
Signals, army.
Signals, general service.
Signals, international.
Signals, Very's night, with implements.

12. Lamps and lanterns.

Candles for running lights.
Lamps, navigator's, swinging.
Lamptrimmer's outfit.
Lanterns, dark, hand.
Lights, standing; stay; running (ship's and boat's).

13. Library books and stationery.

Blanks, Bureau of Equipment.
Library books, full set for ships of first class.
Returns, Bureau of Equipment.

14. Nautical Almanac Office.

Phototachometer, with which the velocity of light was measured during the years 1880-82.
Publications of the Nautical Almanac Office, (a) American Ephemeris and Nautical Almanac, (b) Astronomical papers.

15. Naval Observatory. (In Observatory buildings, on shore.)

Astronomical clocks.
Barometer, Aneroid, used by Captain Hall in his last Arctic expedition.
Chronographs and scales.
Chronometers, some of historic interest.
Chronometer curves.
Diploma, awarded Naval Observatory at Paris, in 1889.
Drawings of nebulæ, stars, and a total solar eclipse.
Drawings of details of Gardner time system.
Eclipse camera.
Electrical testing instruments.
Electric transmitting instruments and table.
Equatorial instrument, 5-inch.
Equatorial House.
Gardner correcting clock and attachments.
Gardner standard time clock.
Gardner transmitting clock and attachments.
Magnetic outfit.
Magnetic traces.
Meridian transit instrument.
Photographs of new Naval Observatory buildings, instruments, and various astronomical and magnetic phenomena; also time ball station, S. F., and members of International Astrophotographic Congress.

Exhibit
No.

• **Photoheliograph.**

Publications of Naval Observatory.

Sextant correcting apparatus and sextant mirror testing apparatus.

Standard time map.

Time ball and detaching apparatus.

Thermostats.

Time gongs.

Transit House.

16. Navigation instruments and apparatus.

Azimuth circles, $7\frac{1}{2}$ inch.

Barometers, aneroid, electric registering, mercurial.

Binnacles, compensating, with correcting appliances.

Chronometers.

Clinometer.

Compass, parts of, floats, needles, pivots, etc.

Compasses, $7\frac{1}{2}$ inches, $6\frac{1}{2}$ inches (telltale), 4 inches (boat).

Deck clock.

Dividers.

Drawing instruments.

Ektropometer and tripod.

Fog horns, common and mechanical.

Glasses, binocular, spy.

Glasses, sand, 28 sec., 14 sec.

Globe, terrestrial, with quadrant.

Gunter's scale.

Horizon, artificial.

Instruments, heeling adjusting, horizontal vibration, vertical force.

Leads, coasting, 25 lbs.; deep sea, 80 lbs.; hand, 14, 9, 7, 5 lbs.

Lead lines, coasting, deep sea, hand.

Logs, common chip, registering taffrail.

Magnifying glass.

Octant and night octant.

Parallel rulers.

Pelorus, and stand.

Protractor, 3 arm.

Psychrometer and case.

Reels, deep sea lead line, log line.

Rods, "Flinders."

Rudder telegraphs and indicators.

Sextant, hydrographic, ordinary, pocket.

Sounding machine, with depth recorder.

Speed telegraphs and indicators.

Standard metallic thermometer and telethermometer.

Thermometers, air, water.

Exhibit
No.

BUREAU OF MEDICINE AND SURGERY.**17. Outfit.**

All medicines allowed ships of first class.
All surgical instruments and appliances used in the navy.
Hospital stores.
Dispensary and hospital furniture.
Bedding for ship's hospital (Sick Bay).
All blank forms, books and stationery furnished to battle ships.
Dispensary.
Operating room and table.
Sick bay.

BUREAU OF NAVIGATION.**18. Hydrographic Office.***Chart construction.*

A set of 16 volumes of antique charts, illustrating the progress of chart construction from 1640 to the present day.

A portfolio of enlarged photos, showing the general methods used, and the personnel equipment and outfit of a party engaged in a hydrographic survey.

A progressive exhibit of the various steps and operations of the process of chart construction, from record books and rough plotting sheets to the final printed sheet.

A set of sample charts published by the United States Hydrographic Office, illustrating the style, scope and quality of the work done.

Relief map of the Atlantic Ocean and adjacent continents.

Relief map of the Carribean Sea and West India Islands.

Charts.

Hydrographic Office charts arranged in portfolios according to naval stations.

United States coast and geodetic survey charts.

United States army engineers' charts of lakes.

British admiralty charts.

Sailing directions.

A complete set of sailing directions (guide books of the ocean).

Light lists (lists of lighthouses of the world).

Buoy and beacon lists.

Tide tables.

Notices to mariners.

Nautical books, pamphlets and monographs, publications of the United States Hydrographic Office, relating to the navigation of the waters of the known world.

A set of sailing directions, of various nationalities, from 1787 to 1879.

Exhibit
No.

Marine meteorology.

All publications, bulletins, monographs, charts and notices relating to the general subjects of climate, weather, storms, currents, prevailing winds, fogs, rains, ice, temperatures, etc.; with directions for utilizing the favorable and avoiding the dangerous meteorological conditions. On the charts, the positions of ice, wrecks and floating derelicts are noted; and the methods of using oil to smooth heavy seas graphically shown.

Instruments.

The following instruments besides those mentioned under Equipment and Naval Observatory:

Deep sea sounding machine, complete.

Deep sea thermometers.

Engineers' transit and solar attachment.

Bureau of Navigation theodolite.

Plane table.

Surveyor's chain.

One hundred foot metal tape measure.

Telemeter rod.

Paper protractors.

Portable magnetometer.

Dip circle.

Meter scale.

Personal equation instrument.

Maximum and minimum thermometer.

Thermograph.

Barograph.

Hydrograph.

Samples of oil distributors.

19. Branch Hydrographic Office.

The Branch Hydrographic Office forms an exhibit in itself, and is situated in the model battle ship "Illinois." It is a sample of the branch hydrographic offices which have been established at Boston, New York, Philadelphia, Baltimore, Norfolk, Savannah, New Orleans, San Francisco Portland, Oregon; Port Townsend, Washington, and Chicago. The object of these offices is to collect, compile, publish and distribute to mariners and others interested in nautical matters, at no expense to them, information for the use of seafaring men of all nationalities. There are constantly at hand, kept corrected to date, complete sets of charts, sailing directions and all nautical publications required by seafaring people.

20. United States Naval Academy.

Copies of the latest annual register of the United States Naval Academy
Volumes of annual registers for the years past.

Copies of the regulations of the United States Naval Academy.

Exhibit
No.

Copies of Soley's "Historical sketch of the United States Naval Academy."

Programs of the monthly, semi-annual and annual examinations.

A complete set of text books and reference books used in every department of instruction.

Copies of the blank forms used at the academy, bound in a portfolio.

In each department of instruction, copies of the questions set for the examinations, and, in answer to the questions, the complete papers of (1) Three candidates for admission. (2) Three cadets of each class, for each monthly examination and for the semi-annual and annual examinations.

A copy of the class standing of the cadets in each class, in every branch of instruction, for each month and term, and for the year.

From the department of mechanical drawing: A series of drawings made by the cadets.

From the department of astronomy, navigation and surveying—A set of charts made by cadets, under instruction, as the result of their own hydrographic surveying.

From the department of steam engineering—(1) A set of working drawings made by the cadets. (2) A set of pieces of metal, unfinished and rough, assigned to the cadets for work in the machine shop. (3) A ferry launch compound engine of 75 horse power, made by the naval cadets.

From the department of seamanship, naval construction and naval tactics—A selection of knots and splices, made by the naval cadets, in their work of the seaman.

A set of drawings, illustrating the physical development of cadets, in certain definite directions.

A plan of the grounds of the naval academy and surroundings.

Photographic views of scenes within the walls.

Accoutrements used by the naval cadets in fencing, boxing and gymnastics.

21. Watch, quarter and station bills.

A set of watch, quarter and station bills showing disposition of crew for all exercises.

BUREAU OF ORDNANCE.

22. Great guns and mounts.

13-inch breech-loading rifles, Mark I. Dummy, with breech mechanism. In forward and after turrets, main deck.

13-inch mounts. Dummy.

8-inch breech-loading rifles, Mark III, 35 cals. Dummy. In 4 super-structure turrets.

8-inch mounts. Dummy.

6-inch breech-loading rifles, Mark III, 30 cals. In main deck sponsons

6-inch central pivot carriages, Mark IV.

Exhibit
No.

23. Rapid fire and machine guns and mounts.

5-inch rapid fire gun, Dashiell breech mechanism. Exhibit.
5-inch recoil mount, complete. Exhibit.
4-inch rapid fire gun, Dashiell breech mechanism. Exhibit.
4-inch recoil mount, complete. Exhibit.
6-pdr. rapid fire guns, Hotchkiss and Driggs-Schroeder.
6-pdr. hydraulic recoil top carriages, with shields.
6-pdr. cage stands, and 6-pdr. rail sockets.
1-pdr. rapid fire guns, Hotchkiss.
1-pdr. hydraulic recoil top carriages.
1-pdr. cage stands.
1-pdr. shelf mounts, in lower military top.
47 m. m. revolver cannon, Hotchkiss, and mount. Exhibit.
37 m. m. revolver cannon, Hotchkiss, and mount. Exhibit.
Gatlings, cal. 45, on shelf mounts in upper military top.

24. Small arms.

Rifles, Hotchkiss, cal. 45, 2d model, with spare parts.
Rifles, cal. 22, for gallery practice.
Revolvers, cal. 38, Colt's Navy, double action, with accessories and spare parts.

25. Great gun ammunition.

13-inch common cast iron shell.
8-inch armor-piercing shell.
8-inch common cast iron shell.
6-inch armor-piercing shell.
6-inch common cast iron shell.
13-inch cartridge and burster bags.
8-inch cartridge and burster bags.
6-inch cartridge and burster bags.
13-inch powder tanks.
8-inch powder tanks.
6-inch powder tanks.

26. Rapid fire, machine gun, and small arm ammunition.

5-inch rapid fire cartridges.
4-inch rapid fire cartridges.
6-pdr. rapid fire cartridges.
6-pdr. rapid fire drill cartridges.
1-pdr. rapid fire cartridges.
1-pdr. rapid fire drill cartridges.
47 m. m. revolver cannon cartridges.
37 m. m. revolver cannon cartridges.
Gatling cartridges, cal. 45.
Small arm cartridges, rifle, cal. 45; revolver, cal. 38.

Exhibit
No.

27. Torpedo station and torpedoes.

Spar torpedoes. Boat outfit.

Reel box, containing 300 feet double conductor insulated cable and crank.

Supply box, containing 1 monkey wrench, 3 open end wrenches, 1 rectifier, 6 pieces emery cloth, 1 pair cutting plyers, 1 piece akonite tape, 2 earth plates, 12 pieces of rubber tubing, 1 sample splice, 1 spool hemp twine, 1 knife, 1 screw driver, 6 dummy detonators, 1 sample detonator splice, 1 dummy gun powder fuze, 24 spherical rubber packings, 36 paper fasteners, 2 safety pins for circuit closers, 1 spring for circuit closers, one $\frac{3}{8}$ inch by 16 inch screw tap, 12 screws for boat spars, 4 reeving lines, and 2 reeving line weights.

Four boxes (tin), containing 8 detonators each, in wooden blocks.

Thirty-two gunpowder igniters and 18 fuzes.

Two glass jars, each containing 6 blocks dry gun cotton.

Twelve secondary boat spars and toggles.

One Farmers's D. E. machine, pattern "C," complete.

Boat's wire box, containing 4 spar leading wires, 2 machine connecting wires, 4 secondary spar caps and rivets, and 4 secondary spar butts and rivets.

Chemical box, containing two prs. forceps, 2 prs. scissors, 2 bottles distilled water, 2 bottles for litmus paper, $\frac{1}{2}$ quire litmus paper in tin cylinder, 2 lbs. sod. carbonate, 1 piece boiled tape, and 2 glass rods.

Two sets boat fittings—in place in steam launches; heel rests, hinge plates, swivel crutches with bearings, cross beam and hoods, spar clamp, securing rods and elevating arms, guide rings, worm shafts, elevating wheels and clutches, complete.

One testing magneto.

Two boat spars.

Twelve service torpedoes, pattern "D," one empty.

Twelve service and 12 exercise torpedo spindles, and 28 torpedo pins.

One boat's firing battery; 2 spare cells; 1 battery tester (4 ohms), 1 hand firing key, 3 lbs. sal. ammoniac, and 12 spare fuze bridges.

Four circuit closers with screws, 4 spherical rubber packings, and 4 rubber diaphragms.

One contact spar leading wire, spare rubber diaphragms, washers, and spherical packings, and 2 spar clamps.

Spar torpedo instructions, 2 copies.

Spar torpedo—gun powder:

Similar to the one used by Lieut. W. B. Cushing, U. S. N., in the destruction of the Confederate Ironclad "Albemarle," at Plymouth, N. C., Oct. 18, 1864.

Spar torpedo—gun powder:

Similar to those used, with mechanical fuzes, during the war, attached to the bow of a monitor.

Exhibit
No.

Spar torpedo—gun powder:

Naval torpedo station; manufactured for service use, prior to 1883.

Exercise, 7 lbs. gun powder.

Boat, 75 lbs. gun powder.

Ship, 100 lbs. gun powder.

Spar torpedo—gun cotton:

Naval torpedo station; manufactured for service use.

Pattern "A," 1883; 31½ lbs. gun cotton.

Pattern "B," 1883; 31½ lbs. gun cotton.

Pattern "C," 1884; 31½ lbs. gun cotton.

Pattern "D," 1885; 34 lbs. gun cotton.

Contact, 1886; 34 lbs. gun cotton.

Exercise, pattern "C," 1884; 4½ lbs. gun cotton.

Exercise, pattern "D," 1885; 4 lbs. gun cotton.

Automobile torpedo:

Naval torpedo station, designed 1869-1872; motive power, compressed air.

Automobile torpedo:

"Howell," two forms; designed by Capt. J. A. Howell, U. S. N.

Fly wheel pattern, 1874.

Latest type, 1892; motive power, energy derived from a fly wheel in rotation.

Automobile torpedo—"Hall:":

Designed by Lieut. M. E. Hall, U. S. N.

Motive power, compressed air.

Dirigible torpedo—"Lay Haight:":

Design of 1881, controlled by means of an electric cable; motive power, liquified carbon dioxide.

Mines—gun powder:

Four various designs used in defense of rivers and harbors, during the war, by the Confederates.

Mines—gun powder:

Submarine mines, called "Devils," used by the Confederates during the war, for the destruction of boats engaged in raising buoyant mines.

Mines—gun cotton:

United States Naval Mine, spherical form, charge 180 lbs. gun cotton.

United States Naval Mine, latest form, charge 125 lbs. gun cotton.

Mines—indicator for:

Circuit indicator and cut out, designed by Comdr. G. A. Converse, U. S. N., for use with mine groups.

Naval Torpedo Station—Explosives:

Samples of picric acid, sodium picrate, potassium picrate, ammonium picrate, barium picrate, strontium picrate, calcium picrate, magnesium picrate, naphthalene, methyl alcohol mono-nitro-benzene, meta-di-nitro-benzene, phenol, and benzene.

Exhibit
No.

Naval Torpedo Station—Fuzes, etc.:

Specimens of electric fuzes, igniters, primers, and detonators (dummy), made at the Torpedo Station for service use. Apparatus for testing detonators before firing and after. Specimens showing the effect of explosion of service detonators.

Naval Torpedo Station—Fuzes:

One of the earliest forms of electric torpedo fuze, devised by Col. Samuel Colt. Recovered by dredging in the Potomac river in 1882. It had been planted by Col. Colt in 1843.

Naval Torpedo Station—Gun Cotton:

Samples of gun cotton. Specimens showing the effects of detonation of gun cotton.

Naval Torpedo Station—Gun Cotton, manufacture of:

Plan of gun cotton factory. Processes of manufacture illustrated by photographs. Samples of cotton waste used in the manufacture of gun cotton.

Naval Torpedo Station—Gun Cotton, shaping of:

Sample blocks of gun cotton shaped for torpedo war heads by means of saw and lathe.

Photographs, illustrating processes.

Naval Torpedo Station—Instruction of Seamen:

Course of instruction for seamen qualifying for the rate of seaman gunner, illustrated by photographs.

Collection of igniters, primers, fuzes and detonators, made by seamen under instruction.

Collection of articles recovered by seamen under instruction, during 1891-2, from an English transport that was sunk in 10 fathoms of water, in Newport harbor, in 1778, to prevent her falling into the hands of the French fleet under Count d'Estaing.

Naval Torpedo Station—Torpedo Trials:

Collection of photographs illustrating the trials of various torpedoes.

Photographs.

The photographs referred to above are as follows:

- 1—Howell torpedo bow discharge, from "Stiletto."
- 2—Howell torpedo broad on bow discharge, from "Stiletto."
- 3—Howell torpedo abeam discharge, from "Stiletto."
- 4—Destruction of a boom by service torpedoes.
- 5—Destruction of a spar by exercise torpedoes.
- 6—Explosion of a service torpedo.
- 7—Patrick torpedo trial, 20 knots.
- 8—Anvil test for gun cotton before firing.
- 9—Anvil test for gun cotton after firing.
- 10—Explosion one block gun cotton.
- 11—Gun cotton factory.

Exhibit
No.

- 12—Dipping troughs, in gun cotton factory.
- 13—Digestion pots, in gun cotton factory.
- 14—Molding press, in gun cotton factory.
- 15—Final press, in gun cotton factory.
- 16—Plates ruptured by explosion of detonators.
- 17—Boat spar torpedo, rigged out.
- 18—Boat spar torpedo, dropped.
- 19—Lay torpedo, No. 1.
- 20—Lay torpedo, No. 2.
- 21—Instruction of seamen, fuze room.
- 22—Instruction of seamen, dynamo room.
- 23—Shaping gun cotton for "Vesuvius" projectiles.
- 24—Assembling the "Vesuvius" projectiles.
- 25—"Vesuvius" projectile and its gun cotton charge.

28. Accessories and Implements.

- Accessory boxes for 6-pdr., 1-pdr., and revolver cannon.
- Accoutrements for landing party.
- Ammunition boxes for 6-pdr., 1-pdr., and revolver cannon.
- Ammunition hoists for 13-in. and 8-in. guns.
- Armorer's tools and chest.
- Bayonets.
- Boarders' rattle.
- Cartridge boxes, 4-in. and 5-in. R. F.
- Cutlasses.
- Drill aprons.
- Fire buckets, with hooks and lanyards.
- Gong.
- Gun implements, 6-in. complete: Boring bit, priming wire, vent drill and wrenches.
- Gun swabs.
- Hydraulic jacks.
- Implements for taking impressions of bore and chamber of great guns.
- Loading tray.
- Locks, 6-in. B. L. R., with spare parts.
- Magazine dresses, shoes, and tools.
- Mushrooms, spare, for taking pressures.
- Ordnance mat, for stop leaks.
- Powder, samples of each kind used in the navy.
- Powder tanks, 200 lbs., 50 lbs.
- Pressure gauges, with discs.
- Primers, electric, friction, and percussion.
- Purchase, differential.
- Rammers, sectional.
- Shell extractor.
- Shell tongs.

Exhibit
No.

Sights, 6-in. B. L. R.
Single sticks.
Spare article boxes, 6-pdr. and 1-pdr.
Sponges, bore and chamber.
Sponge bucket and marine sponge.
Whips for fixed ammunition.

29. Armor plates, gun models, photos.

Diagonal armor plate, for battle ship "Indiana;" 14 inches thick, 10 feet long, 6 feet 3 inches wide; weight, about 18 tons. Has been fired at 3 times.

Curved armor plate, for barbette of coast defense vessel "Monterey; 11½ inches thick, 14 feet 8½ inches long, 4 feet 6½ inches wide; weight, about 17½ tons. Has been fired at three times.

Models, steel, miniature, of all calibres, from 13-inch to 4-inch, inclusive.

Model of section of monitor turret, with 15-inch and 11-inch guns in position.

Model of section of monitor turret, with 15-inch gun in position, showing "Port Stopper."

Model of 10-inch shell gun, on wooden pivot-carriage, with gun gear complete.

Model of 9-inch shell gun, on iron Marsilly carriage, with gun gear.

Model of 9-inch shell gun, on wooden Marsilly carriage, with gun gear.

Model of 8-inch shell gun, on iron Marsilly carriage, with gun gear.

Model of 32-pdr. shell gun, on iron Marsilly carriage, with gun gear.

Model of 8-inch shot gun, on wooden Marsilly carriage.

Model of 13-inch mortar, on iron carriage, with all articles for service of gun.

Model of 100-pdr. Parrott rifle, on iron Marsilly carriage, with gun gear.

Model of 100-pdr. Parrott rifle, on wooden Marsilly carriage, with gear.

Model of 60-pdr. B. L. R., on iron directing bar carriage, with gear.

Seven models of bronze howitzers M. L. S. B., on boat or field carriages.

Model of 20-pdr. M. L. R., on deck carriage.

About 75 photos of ordnance shops, navy yard, Washington, D. C.

30. American Projectile company. (Electric welded projectiles.)

Twelve black enameled, 4-inch, wrought steel common shell.

One 4-inch steel common shell.

One 4-inch steel common shell, with section removed to show interior.

One 4-inch steel common shell for carrying high explosives.

One 4-inch steel case shrapnel.

One 3.2-inch shrapnel.

One 3.2-inch shrapnel, with section removed to show interior.

One piece rough 4-inch steel tubing from which 4-inch shell are made.

One 6-inch steel common shell, with section removed to show interior.

Exhibit
No.

One piece 6-inch steel tubing from which 6-inch shell are made.
 One section of 6-inch steel tubing from which steel shrapnel are made.
 Two 57 m. m. armor-piercing shell (6-pdr.).
 One 57 m. m. armor-piercing shell, with section removed to show interior.
 One 57 m. m. armor-piercing shell, in rough state before being turned.
 Four 57 m. m. armor-piercing shell that have been fired through a 4-inch armor plate.
 One 4-inch armor plate, showing results of firings.

BUREAU OF STEAM ENGINEERING.

31. Boilers and accessories.

Boiler, horizontal, straightaway. Launch.
 Boiler, tubulous, "Towne," type A, 6.7-107. Launch.
 Boiler, tubulous, "Towne," type 3.2-C5.4. Launch.
 Boiler, vertical, tubulous, "Ward," type B, improved. Launch.
 Boiler, vertical, tubulous, "Ward," type D. Launch.
 Boiler, vertical, tubulous. Cutter.
 Distiller, triple coil.
 Fire room outfit, complete.
 Photos, boilers and uptakes of armored cruiser "Maine."
 Salinometer cup, composition; "Fithian's" pattern.
 Salinometer cup, composition; "Long's" pattern.
 Steam trap, improved.
 Test outfit, boilers, complete.
 Whistle, steam, of United States steamer "Vanderbilt."
 Whistle, steam, bell pattern.

32. Engines.

Engine, oscillating, torpedo boat, "Confederate."
 Engine, vertical compound, type B, modified. Launch, 140.
 Engine, vertical compound, type G, No. 1. Launch, 139.
 Engine, vertical compound, type D. Cutter and whale boat.
 Engine, compound, type F, No. 12, modified. Cutter.
 Engine, vertical compound. Launch.
 Engine, vertical, simple, 6x6. Launch.
 Drip pan and oil feeders.
 Indicator, Baird's pneumatic.
 Steam and vacuum gauges.
 Test outfit, engine.
 Blue prints, machinery "Indiana," Massachusetts, "Oregon."
 Drawings, engines United States steamer "Miantonomah."
 Drawings, engines "Powhatan" and "Torpedo Boat No. 2."
 Drawings, machinery "Indiana," "Massachusetts," "Oregon," "New York," "Columbia," "Olympia," "Katahdin," "Maine," "Iwana," "Narkeeta," "Wahneta."

Exhibit
No,

Launch propellers and shafts.
Log book, engineer's.
Patterns, launch engine, type E. Bureau.
Patterns, screw propeller.
Photographs, engines armored cruiser "Maine."
Photographs, engines "Concord" and "Bennington."
Photograph, engines "Miantonomah."
Specifications, machinery "Bancroft," "Machias," "Castine," "Torpedo Boat No. 2."
Specifications, machinery "Maine," "New York," "Chicago," San Francisco, "Columbia," "Minneapolis," "Brooklyn," "Indiana," "Massachusetts," "Oregon," "Iowa," and "Katahdin."

33. Pumps.

Pump, bilge, "Knowles."
Pump, boiler feed, "Worthington."
Pump, boiler feed, "Blake" vertical duplex.
Pump, general use, "Worthington" vertical duplex.
Surface condenser, "Wheeler" auxiliary, with air and circulating pumps.

34. Lathes and tools.

Engine lathe, with face plate, chuck and tools.
Shaping machine, with tools complete.
Portable forge, navy pattern.

35. Steam engineering, miscellaneous.

Clinometer, Webster's liquid marine.
Ice machine, Allen's dense air.
Medallion, wood, of bureau emblem.
Panel, wood, of bureau emblem.

BUREAU OF SUPPLIES AND ACCOUNTS.

36. Specimens of the navy ration.

Sunday.

One lb. cornmeal.
One-half lb. or $\frac{1}{2}$ pint peas.
Two oz. butter.
Twelve oz. preserved meat, roast beef or corned beef.
Two oz. coffee.
Four oz. sugar.
Six oz. canned vegetables.

Monday.

Fourteen oz. biscuit.
Eight oz. wheat flour.
Two oz. dried fruit, raisins or peaches.
Twelve oz. preserved meat, ham or bacon.

Exhibit
No.

One-half oz. tea.
Four oz. sugar.
One-half pint vinegar.

Tuesday.

Fourteen oz. biscuit.
One lb. salt pork.
One-half pint beans.
Two oz. coffee.
Four oz. sugar.
One-fourth pint or 4 oz. pickles.

Wednesday.

One lb. hominy.
Eight oz. rice.
Two oz. butter.
Twelve oz. preserved meat, mutton or bacon
Two oz. cocoa.
Four oz. sugar.
Six oz. canned vegetables.

Thursday.

Fourteen oz. biscuit.
Eight oz. wheat flour.
One lb. salt beef.
Two oz. dried fruit, prunes or apples.
Two oz. coffee.
Four oz. sugar.
One-half pint molasses.

Friday.

One lb. oatmeal.
Two oz. butter.
Six oz. tomatoes.
Twelve oz. preserved meat, fish or sausage
One-half oz. tea.
Four oz. sugar.

Saturday.

Fourteen oz. biscuit.
One lb. salt pork.
One-half pint beans.
Two oz. coffee.
Four oz. sugar.
One-quarter pint or 4 oz. pickles.

37. Provisions.

Apples, evaporated.
Bacon.
Beans, white.
Beef, salt.

Exhibit
No.

Beef, corned, canned.
Beef, roast.
Brown, canned.
Bread, hard.
Butter.
Cocoa.
Codfish, canned. .
Coffee.
Corn.
Currants, dried.
Flour, wheat.
Flour, rye.
Ham.
Hominy.
Meal, corn.
Meal, oat.
Molasses.
Mutton, roast, canned.
Peaches, evaporated.
Peas, split, dried.
Pickles.
Pork, salt.
Prunes.
Raisins.
Rice.
Sausage meat.
Sugar.
Tea.
Tomatoes, canned.
Vegetables, assorted, canned.
Vinegar.

3. Clothing.

Badges, petty officers', blue and white.
Bandsmen's cap, coat, trousers.
Blankets.
Boots.
Caps, cloth, petty officers', watch.
Cloth, blue cap, trousers.
Drawers, flannel, heavy and light.
Duck, cotton.
Flannel; blue, 11 oz.; fine, 7 oz.
Hats, white duck.
Jumpers, white.
Leggings, tan duck.
Mattresses.

**Exhibit
No.**

Neckerchiefs, silk.
Oil coat.
Oil overalls.
Overcoats.
Overshirts, flannel, petty officers'.
Petty officers' coat, vest and trousers.
Shoes, calf.
Socks, woolen.
Sou'westers.
Trousers, white.
Trousers, cloth.
Undershirts, heavy.
Undershirts, light.
Working suits, cotton.

39. Small Stores.

Blacking, boxes.
Bowls, agate.
Brushes, blacking.
Brushes, scrub.
Brooms, wisp.
Buttons, "Eagle;" medium small.
Buttons, ivory.
Buttons, rubber; large, medium, small.
Combs, coarse.
Cotton, spool.
Cups, agate.
Kettles, tin, mess.
Knives, jack.
Pans, tin, mess.
Plates, agate.
Ribbons, cap, woven.
Silk, sewings, pools.
Soap, salt water.
Tape, linen, white.
Tape, worsted, red.
Thread, black, spools.
Tobacco, lbs.

40. Contingent; Bureau, Paymasters'.

Candles, box.
Forms and books, bureau.
Forms and books, general storekeepers'.
Forms and books, paymasters', navy yards.
Forms and books, paymasters', ships.
Forms and books, purchasing pay officers'.

Exhibit
No.

Letter scales.
Letter press.
Safe, iron.
Typewriting machine.

BUREAU OF YARDS AND DOCKS.

41. Models, plans, and publications.

Model, granite dry dock, Boston, Mass.
Photos, jib dock cranes, New York and Norfolk.
Plan, navy yard, Portsmouth, N. H. January 1, 1893.
Plan, navy yard, Boston, Mass. January 1, 1893.
Plan, navy yard, Brooklyn, New York. January 1, 1893.
Plan, navy yard, League Island, Pa. January 1, 1893.
Plan, navy yard, Norfolk, Virginia. January 1, 1893.
Plan, navy yard, Washington, D. C. January 1, 1893.
Plan, navy yard, Pensacola, Fla. January 1, 1893.
Plan, navy yard, Mare Island, Cal. January 1, 1893.
Plan, naval station, Port Royal, S. C. January 1, 1893.
Plan, naval station, Key West, Fla. January 1, 1893.
Plan, granite dry dock, Boston, Mass.
Plan, granite dry dock, Norfolk, Va.
Plan, granite dry dock, Mare Island, Cal.
Plan, timber dry dock, Brooklyn, N. Y., with specifications.
Plan, timber dry dock, Port Royal, S. C. with specifications.
Plan, timber dry dock, Puget Sound, Washington, with specifications
Plan, dry dock pier, League Island, Pa.
Plan, iron and steel pier, Pago Pago, Samoa.
Plan, quay wall, Brooklyn, N. Y.
Plan, quay wall, League Island, Pa., with specifications.
Plan, quay wall, Pensacola, Fla.
Plan, quay wall, Mare Island, Cal.
Plan, machine shop and storehouse, League Island, Pa.
Plan, workshop, League Island, Pa.
Plan, mould loft building, League Island, Pa.
Plan, wood-working shop and saw mill, Norfolk, Va.
Plans, locomotive jib dock cranes, Brooklyn N. Y. and Norfolk, Va.
Plans, roof truss of erecting shop, Norfolk, Va.
Plans, 100-ton shears.
Plans, 100-ton shear legs.
Publication, history, United States navy yard, Portsmouth, N. H.
"Preble."
Publication, history, United States navy yard, Gosport, Va. "Lull."
Publication, report of board on permanent improvement, Lauegee
Island, Pa.

UNITED STATES MARINE CORPS.

Exhibit
No.**42. Marine encampment.**

A model camp of United States marines; situated north of the government plaza, in the space between the Weather Bureau, Life Saving Station, Lighthouse and United States Observatory buildings. There are tents (United States army pattern) for 3 officers, 4 sergeants, 4 corporals, 2 music and 50 privates of the United States marine corps. This camp is, in all respects, a model, as to arrangement, outfit and police, of a regular service camp for marines doing duty on shore.

NOTE:—For more detailed information concerning naval exhibit, see naval separate catalogue.

POSTOFFICE DEPARTMENT.

UNITED STATES.

Exhibit
No.

1. **Model (working) postoffice** with all the appliances of a postoffice of the first class.
2. **Postal car** in which the mail is separated and distributed by postal clerks, exposed to public view.
3. **Model of postal car** completely furnished—on scale of 10 feet.
4. **Model of United States mail steamship Paris**, 12 feet in length.
5. **Model of ocean mail steamship Southerner**, 7 feet in length, representing the first mail steamship built in the United States.
6. **Model of mail steamboat**, 3 feet in length, in use on the Oklawaka river, Florida.
7. **Model of mail steamboat**, 4 feet in length, in use on the Mississippi river.
8. **Full size Concord mail coach** of the latest pattern.
9. **Old Concord mailcoach** in early and present use in carrying mails in Montana.
10. **Mail wagon** used in cities in delivering mail to railway depots.
11. **Mail wagon** used in the collection of mail in cities.
12. **Uniformed model of post rider** mounted on horseback.
13. **Snow sledge drawn by dogs**, carrying United States mail, with uniformed model of Indian runner on snow shoes.
14. **Uniformed model of special delivery messenger**, mounted on bicycle in motion.
15. **Uniformed model of letter carrier.**
16. **Uniformed model of railway mail clerk.**
17. **Case** containing collection of U. S. mail bags in present and former use.
18. **Case** containing collection of mail locks in present and former use.
19. **Two cases** containing collection of mail locks in former use.
20. **Case** containing postmarking and cancelling stamps.
21. **Twenty-six post route maps** showing all the post routes in the United States and Territories.
22. **Map of the world**, showing lines of ocean mail service between the United States and foreign countries.
23. **Street letter boxes** for collection and deposit of mail matter.
24. **Five cancelling machines** used in large postoffices for postmarking mail matter, and cancelling stamps on same, in motion by means of electricity.

Exhibit
No.

25. **Four gilded models** illustrating the growth of the postal service in the United States.
26. **Statistical charts** showing the growth and development of the various branches of the postal service.
27. **Case containing samples of supplies** (twine and paper) in use in the postal service.
28. **Six cases containing over one thousand articles of unique and curious character** from the museum of the Dead Letter Office in Washington, found in the mails and undeliverable to the addresses or senders.
29. **Framed collection of all the adhesive postage stamps** issued by the post-office department since 1847 when stamps were first introduced into the United States.
30. **Five frames containing collection of stamped envelopes** issued by the department since 1853, date of first issue.
31. **Framed collection of specimens of all the postal cards** of the United States issued since 1874, the date of the first issue.
32. **Three frames containing a collection of photographs** of veterans of the postal service. Service ranging from 35 to 65 years.
33. **Fifty-nine portraits of postmasters general and assistant postmasters** general of present and former times.
34. **Photographs of over four hundred postoffices** in the United States.
35. **Large and varied collection of framed photographs, paintings and other pictures** of beautiful and natural scenery along the railway mail lines of the United States.
36. **Exhibit of the American Philatelic Association**, in eleven large cases, of their extensive collection of postage stamps of all nations.
37. **Framed collection of old manuscripts, postmasters' commissions and accounts current.**
38. **Frame containing gold and bronze medals** awarded to the Department by former expositions.
39. **Portrait of Washington.**
40. **Frame containing the first sheet of Columbian postage stamps printed.**
41. **Collection of old postmarking stamps, scales, etc., from various cities** in the United States.
42. **Photograph of Mr. James Lawrenson**, who served in the postal service for seventy-one years.
43. **Case containing Benjamin Franklin's ledger.**
44. **Stand with Cutler mail box and chute.**
45. **Painting of the Fall River steamboat Puritan.**
46. **Picture of mail steamboat Milwaukee.**
47. **Map rack containing map of post routes** of the United States and Territories.
48. **Picture of the mail steamship Pacific.**
49. **Seven frames of misdirections, etc., on letters sent to the Dead Letter Office.**

Exhibit

- No.
- 50. Frame of blanks, money orders and postal notes.
 - 51. Picture representing the mail carrier of one hundred years ago, and the flight of the fast mail on the Michigan Southern.
 - 52. List of first money order offices in the United States.
 - 53. Drawing of old postoffice department burnt in 1836.
 - 54. Picture of first Chicago postoffice.
 - 55. Oil painting of an attack by Indians on an old mail stage.
 - 56. Two frames of sealing stamps
 - 57. Mail crane for postal car.

GREAT BRITAIN.

- 58. Postmarking stamps.
- 59. Postal uniforms.
- 60. Photographs of mail wagons.
- 61. Three frames of postage stamps, postal cards and stamped envelopes.

CANADA

- 62. Mail boxes.
- 63. Mail bags.
- 64. Postmarking stamps, pads, etc.
- 65. Postal uniform buttons.
- 66. Postal uniforms.
- 67. One frame of postage stamps.

TRINIDAD.

- 68. Three frames of postage stamps, stamped envelopes and postal cards.

NEW ZEALAND.

- 69. Postmarking stamps.
- 70. Mail bags.
- 71. Post office letter box fronts.
- 72. Map of telegraph circuits.
- 73. Frame of postage stamps.

QUEENSLAND.

- 74. Stamping table and stool.
- 75. Mail baskets.
- 76. Postal blanks, money orders, parcel post blanks, etc.
- 77. Lock box front.
- 78. Postal papers.
- 79. Postmarking stamps, pads, etc.
- 80. Letter carriers' uniforms.
- 81. Photographs of postoffices, postal cars, etc.
- 82. Case of pigeon holes.
- 83. Mail bags.
- 84. Telegraph instruments.
- 85. Pieces of sub-marine cable.
- 86. Mail carrying arms.
- 87. Frame of postage stamps.

INDIA.Exhibit
No.

- 88. Mail bags.
- 89. Runner's staff with bells.
- 90. Model of a tonge.
- 91. Clay models of postman, mail runner, stamper, camel post, etc.
- 92. Pictures of postoffices.
- 93. Six frames of postage stamps, postal cards and stamped envelopes.

AUSTRALIA.

- 94. Frame of stamps, postoffice buildings, etc.
- 95. Frame of stamped envelopes and postal cards.
- 96. Thirteen frames of Tasmanian postage stamps.

MALTA.

- 97. Photographs of buildings and postal employes.
- 98. Impressions of date stamps.
- 99. Frame of tax stamps.
- 100. Two frames of postage stamps, postal cards and stamped envelopes.

TIMOR.

- 101. Frame of postal cards and stamped envelopes.
- 102. Frame of postage stamps.
- 103. Frame of stamp impressions.
- 104. Frame of photographs of Macan postoffice.

BAHAMAS.

- 105. Money order and registry stamps.
- 106. Parcel post and savings bank blanks.
- 107. Two frames of postage stamps and stamped envelopes.
- 108. Three frames: Map, stamps and old postmarks.

VICTORIA

- 109. Mail bags.
- 110. Postal blanks.
- 111. Framed stamps and photographs.
- 112. Framed stamps

WINDWARD ISLANDS.

- 113. Six frames of postage stamps, stamped envelopes and postal cards.

LEEWARD ISLANDS.

- 114. Three frames of postage stamps.

BERMUDAS.

- 115. Frame of postage stamps.

CAPE OF GOOD HOPE.

Exhibit
No.

116. Two frames of postage stamps, stamped envelopes and postal cards.

NEWFOUNDLAND.

117. Frame of postage stamps.

BRITISH GUIANA.

118. Frame of postage stamps.

NATAL.

119. Frame of postage stamps.

OIL RIVER PROTECTORATE.

120. Frame of postage stamps.

WESTERN AUSTRALIA.

121. Frame of postage stamps.

GOLD COAST.

122. Frame of postage stamps.

SIERRA LEONE.

123. Frame of postage stamps.

LAGOS.

124. Frame of postage stamps.

BECHUANSLAND.

125. Frame of postage stamps.

GIBRALTAR.

126. Frame of postage stamps.

CYPRUS ISLANDS.

127. Frame of postage stamps.

FIJI ISLANDS.

128. Frame of postage stamps.

CEYLON.

129. Two frames of postage stamps.

NORTH BORNEO.

130. Frame of postage stamps.

BRITISH HONDURAS.

131. Frame of postage stamps.

STRAITS SETTLEMENT.Exhibit
No.

132. Frame of postage stamps.

TURKS ISLANDS.

133. Frame of postage stamps.

EGYPT.

- 134. Postmarking stamp.
- 135. Tickets for sealing official letters.
- 136. Photographs of postoffices and mail wagons.
- 137. Two frames of stamps, etc.

JAPAN.

- 138. Portfolio of stamps.
- 139. Maps.
- 140. Scales.
- 141. Mail bag.
- 142. Photographs of postal officials and mail service rooms.
- 143. Postal uniforms.
- 144. Artists, materials.
- 145. India ink.
- 146. Box of postmarking stamps.
- 147. Frame of postage stamps.

DENMARK.

- 148. Case of postmarking stamps, pads, etc.
- 149. Mail bags.
- 150. Letter boxes.
- 151. Photographs of mail wagons and uniforms.
- 152. Three frames of stamps, postal cards, etc.

ITALY.

153. Five frames of postage stamps, stamped envelopes and postal cards.

SWEDEN.

- 154. Model of letter carrier with complete equipment.
- 155. Rest for postillion with complete equipment.
- 156. Rest for country letter carrier with complete equipment.
- 157. Postal uniforms.
- 158. Sign boards for postoffices.
- 159. Mail boxes.
- 160. Mail bags.
- 161. Postmarking stamps, pads and rubber marking plate.
- 162. Postage stamp box.
- 163. Case of scales and weights.
- 164. Two frames of stamps, etc.

SWITZERLAND.

Exhibit
No.

- 165. Mail bags.
- 166. Mail boxes.
- 167. Album of uniforms.
- 168. Postmarking stamps.
- 169. Photographs of mail wagons, postoffices, etc.
- 170. Photographs of postal uniforms.
- 171. Three frames of stamps, etc.

AUSTRIA.

- 172. Photographs of postoffices, etc.
- 173. Portfolios of maps.
- 174. Eleven frames of postage stamps, postal cards and stamped envelopes.

SPAIN.

- 175. Three frames of stamps, etc.

FRANCE.

- 176. Photographs of mail wagons.
- 177. Six frames of postage stamps, postal cards and stamped envelopes.

GERMANY.

- 178. Postmarking stamps, pads, ink, etc.
- 179. Letter scales.
- 180. Mail bags.
- 181. Letter boxes.
- 182. Carrier satchels.
- 183. Models of mail wagons.
- 184. Fancy pictures.
- 185. Picture of Emperor William.
- 186. Two frames of stamps, etc.

BELGIUM.

- 187. Mail boxes.
- 188. Spirit lamp.
- 189. Iron hasp and iadel.
- 190. Mail bags.
- 191. Pronged stick for rural letter carrier.
- 192. Postmarking stamps and seals.
- 193. Letter carriers lantern.
- 194. Photographs of mail boxes and postal cars.
- 195. Frame of postage stamps.

PORTUGAL.

- 196. Eight frames postage stamps, stamped envelopes and postal cards.

SAN SALVADOR.

Exhibit
No.

- 197. Letter box.
- 198. Mail sack.
- 199. Five frames postage stamps, stamped envelopes and postal cards.
- 200. Frame of postage stamps.
- 201. Photographs of postoffices and postal officials.
- 202. Frame of postmarks.
- 203. Frame of postal cards and stamped envelopes.
- 204. Map.

BRAZIL.

- 205. Two frames postage stamps, stamped envelopes and postal cards.

HAWAII.

- 206. Frame of postage stamps, stamped envelopes and postal cards.

MEXICO.

- 207. Mail bags.
- 208. Scales and weights.
- 209. Postmarking stamps.
- 210. Photographs of postal officials.
- 211. Four frames of postage stamps.
- 212. Lock boxes.
- 213. Carriers' lanterns.
- 214. Frame of stamped envelopes and postal cards.
- 215. Letter box.

ARGENTINE REPUBLIC.

- 216. Two frames of postage stamps, stamped envelopes and postal cards.

PARAGUAY.

- 217. Frame of postage stamps.

CHILI.

- 218. Frame of stamps, etc.

PERU.

- 219. Frame of stamps, etc.

DEPARTMENT OF THE INTERIOR.

PATENT OFFICE.

Exhibit
No.

1. Air and gas engines.

Eighteen models illustrating the development of the modern hot air and gas engines from the earliest patented engine to the latest improved form of engine used.

2. Amalgamators.

Fifteen models illustrating improvements on separators and amalgamators.

3. Boot and shoe making machines.

One hundred and eleven models illustrating the development in the various classes of machines used in making boots and shoes from the earliest boot trees down to the perfected machines now in use.

4. Brick and tile making.

Thirteen models illustrating improvements in clay making apparatus; eleven models illustrating improvements in brick molds; fifty-seven models illustrating the development of brick-making machinery from the earliest patented machine to the latest machines used; and fifteen models illustrating improvements in tile and pottery machinery. In all ninety-six models.

5. Bridges.

Nine models illustrating improvements in bridges.

6. Carding and combing.

Fifty-eight models illustrating the development of machines for cleaning, carding and combing textile fabrics from the earliest inventions patented to the latest patented improvements in these machines.

7. Centrifugal machines.

Fifteen models illustrating the development of the centrifugal machine from the first machine patented to the latest machines in use.

8. Cloth finishing machines.

Thirty-nine models illustrating the development of cloth finishing machines from before the beginning of the present century up to the improved modern machines; ten models illustrating improvements in cloth measuring; and thirteen models illustrating improvements in cloth cutting. In all, 62 models.

Exhibit
No.

9. Cordage machines.

Thirty-two models illustrating the development of machine for making cord and rope, and for winding spools from the earliest patented machines to the machines now in use.

10. Dynamos and electric motors.

Seventy-nine models illustrating the development of dynamo and electric motor from the earliest attempts at a motor, and the first dynamo to the perfected machines of the present.

11. Electric lighting.

Nineteen models illustrating the development of the arc and incandescent light from the earliest used to the modern automatically regulated arc light and the modern perfected incandescent light.

12. Excavating apparatus.

Eight models illustrating improvements in earth augurs; 10 models illustrating improvements in road scrapers; 26 models illustrating improvements in ditching and dredging apparatus. In all 44 models.

13. Felting and fulling.

Eighteen models illustrating the development of machinery for felting and fulling cloth from the machines patented half a century ago to the latest improved machines; and 10 models illustrating improvements in hat making machinery. In all 28 models.

14. Fences and gates.

Fifteen models illustrating improvements in farm gates and 9 models illustrating improvements in means for stretching wire fences. In all 24 models.

15. Fire arms.

One hundred and twenty models illustrating the development of fire arms from the earliest shoulder piece known, to the latest perfected breech-loading magazine rifle adopted by the government; and 45 models illustrating the development of the pistol down to the latest perfected revolver. In all 165 models.

16. Grinding mills.

Fifty-seven models illustrating the development in means for grinding grain, including roller mills and bolting mills, from the early patented devices to the latest improvements in use.

17. Harvesters.

Fifty-four models illustrating the development of mowing machines and harvesters from the earliest machine known up to the latest improved machines used.

18 Harrows.

Twenty-nine models illustrating improvements in harrows.

19. Injectors and ejectors.

Fifty-seven models illustrating the improvements in injectors from the first injector patented to the latest improved form patented.

**Exhibit
No.****20. Knitting machines.**

Sixteen models illustrating the development of the straight knitting machine; and 17 models illustrating the development of the circular knitting machine. In all 33 models.

21. Laundry and washing apparatus.

Sixty-three models illustrating the development in laundry appliances from the beginning of the present century up to the present time.

22. Leather working.

Eighteen models illustrating the development of the art of splitting and cutting leather from the early patented inventions to the late improved machines.

23. Locks.

Nineteen models illustrating improvements in locks; 5 models illustrating improved padlocks; 13 models illustrating improvements in time locks; and 6 models illustrating improvements in safes. In all 43 models.

24. Locomotives.

Thirty-seven models illustrating the development of the locomotive and traction engine from the earliest locomotive used to the latest improved engines now in use.

25. Looms for weaving.

Fifty models illustrating the development of the loom from pre-historic times down to the perfected power loom used to-day.

26. Marine propulsion.

Two hundred and eighty-three models illustrating the development of the screw propeller, the paddle wheel and other means for marine propulsion from the earliest devices used to the latest improved devices.

27. Metal working machines.

Nine models illustrating improvements in horse-shoe making machines; 5 models illustrating improvements in chain making; and 17 models illustrating improvements in file-cutting and gear cutting. In all 31 models.

28. Nail making machines.

Twenty-seven models illustrating the development of nail making machinery.

29. Navigation.

Fifty-eight models illustrating the development of the modern appliances for steering vessels from the earliest patented device to the modern improved steam steering apparatus; 27 models showing improvements in anchors, and 8 models showing improvements in logs and sounding apparatus. In all 93 models.

Exhibit
No.

30. Ordnance.

Fifty-seven models illustrating the development of ordnance from the earliest cannon known to the modern breech-loading gun; 29 models illustrating the improvements in mounting ordnance; and 30 models illustrating the development of the machine gun, including the latest improved guns. In all 117 models.

31. Paper making apparatus.

Thirty-nine models illustrating the development of the modern pulp making machine; 14 models illustrating the development of the paper making machines, and 8 models illustrating the improvement in calendering devices. In all 61 models.

32. Plows and cultivators.

Fifty-two models illustrating the development of the plow from the first rude plow used to the latest improved sulky plow.

33. Printing presses.

One hundred and six models illustrating the development of the modern printing press from the first press used by the discoverer of the art to the latest improved perfecting newspaper press in use at the present time.

34. Refrigeration.

Thirteen models illustrating the development of the art of refrigeration including complete modern apparatus.

35. Sawing and planing machines.

Seventeen models illustrating the development of this art from the earliest American inventions to the latest improved machines.

36. Screw-making machines.

One hundred and six models illustrating the development of screw-making machines and taps and dies, including the late improvements.

37. Seeders and planters.

Twenty-seven models illustrating the development of mechanical seed-planting devices from the early patented machine to the latest improved machines.

38. Sewing machines.

One hundred and thirty-two models illustrating the development of the sewing machine from the earliest recorded patented mechanical sewing device to the latest improved machines of the present.

39. Sheet metal working apparatus.

Forty-two models illustrating the improvement in machines for shearing and otherwise working sheet metal within the last half century.

40. Soldering apparatus.

Six models illustrating improvements in soldering tools, and 10 models illustrating improvements in soldering machine. In all 16 models.

Exhibit
No. ,

41. **Spinning machines.**

Twenty-three models illustrating the development of the spinning devices from the prehistoric distaff and spindle to the modern perfected spin-ing mule.

42. **Steam pumps.**

Thirteen models illustrating the improvement in steam pumps within the last half century.

43. **Steam engines.**

Ninety models illustrating the development of the steam engine from the earliest steam operated devices to the late improvements in the modern compound engine.

44. **Steam engine governors.**

Thirty-five models illustrating the improvements in the governors from the earliest form patented to the present.

45. **Steam hammers.**

Twelve models showing improvements in steam hammers.

46. **Stone crushers.**

Sixteen models illustrating the improvements in means for crushing stone and ore.

47. **Tanning.**

Thirty-two models illustrating the improvements in apparatus for tanning and dressing hides.

48. **Telegraphy.**

Thirty models illustrating the development of the electric telegraph from the first device patented to the modern duplex and multiplex telegraphs, including also the printing and autographic telegraphs.

49. **Telephony.**

Forty models illustrating the development of the telephone from the earliest patented telephone to the latest instrument in use.

50. **Thrashing and cleaning grain.**

Thirty-five models illustrating improvements in machines for thrashing and appliances for cleaning and treating grain to prepare it for grinding; and 19 models illustrating improvements in devices for weighing grain. In all 54 models.

51. **Typewriters.**

Forty models illustrating the development of the typewriting machine from the first American invention to the modern perfected machines.

52. **Wire-working machines.**

Twenty-six models illustrating improvements in machines for working wire made within the last half century.

53. **Wood-turning machines.**

Thirteen models illustrating the development of the wood-turning lathe from the earliest known form to the improved modern lathe.

Exhibit
No.

54. Wood-working machines.

Twelve models illustrating the improvement in wood-working machines from the beginning of the present century to the present day.

55. Publications of the Patent Office.

One hundred and nine volumes of publications of the Patent Office, including the Official Gazette, the Decisions of the Commissioners and other publications of the office.

GENERAL LAND OFFICE.

56. A series of charts and maps.

Showing the extent, kind and location of public lands, surveyed and unsurveyed; and illustrating the operations of the General Land Office.

OFFICE OF INDIAN AFFAIRS.

57. Indian industrial and training school in operation.

Composed of teachers and pupils from the schools at Albuquerque, N. M.; Rensselaer, Ind.; Philadelphia and Carlisle, Pa.; Lawrence, Kan.; Genoa, Neb.; and Chilocca and Osage, Oklahoma.

BUREAU OF EDUCATION.

58. Alaskan schools.

Photographs and scholars' work, illustrating conditions and results of school work in Alaska.

59. Colleges and universities.

Catalogues of colleges and universities of the world. Photographs of colleges and universities of the United States.

60. Library.

Selected library of about 5,000 volumes for a town library. Selection made by a committee of the American Library Association.

61. Library administration.

Blanks, etc., arranged by the Library School, Albany, N. Y.

62. Library architecture.

Photographs and drawings arranged by a committee of the American Library Association.

63. Library bindings.

Examples of best bindings, both temporary and permanent, for books of various sizes and kinds.

64. Library book shelving.

Examples of book stacks.

65. Library catalogues.

Card and printed catalogues of the 5,000-volume library prepared under the supervision of the American Library Association.

66. Library furniture.

Examples of furniture endorsed by the American Library Association.

Exhibit

No.

67. Library indexes.

Machine known as the Rudolph Indexer.

68. Periodicals.

Copies of the educational journals and reviews of the United States.

69. Publications.

Full set of annual reports, circulars of information and bulletins that have been published by the Bureau of Education.

70. Reformatories and industrial schools.

Photographs and scholars' work illustrating the methods used in such institutions.

71. Salem library.

Photographs and drawings showing how a dwelling house has been altered into a library building for a library of 37,000 volumes.

72. School apparatus.

Models for demonstration of applied mathematics.

73. School architecture.

Photographs of exteriors and interiors of buildings.

74. School furniture.

Models illustrating the development of American invention in school furniture.

75. School superintendence.

Reports of state and local superintendents of public schools in the United States.

76. School.

Photographs of teachers and groups of pupils.

77. School savings banks.

Documents illustrating the methods of conducting school savings banks.

78. Secondary schools.

Catalogues and photographs of secondary schools of the United States.

Photographs of secondary schools of New Zealand.

79. Statistics.

Charts showing American and foreign statistics relating to population, school population, ratios and comparisons with expenditures for all school purposes.

Maps showing the location and distribution of educational institutions.

Volumes of original returns that have been used in compiling the statistics for the report of the commissioner of education, school year 1891-'92.

80. Time schedules.

Mechanical appliance used in the University of Kansas for the arrangement of hours for recitations, lectures and laboratory exercises.

CENSUS OFFICE.**81. Maps, charts and diagrams.**

Production of tobacco.

Distribution of different religious denominations.

Exhibit
No.

- Products of manufactures.
 - Mineral productions.
 - Prison population of the United States by age, sex, nativity and color.
 - Thirty maps, charts and diagrams representing total, constituency and density of population.
 - Railway and water transportation.
 - Principal causes of death and death rates.
 - Wealth, debt and taxation.
82. **Tabulating machines.**
Six electrical tabulating machines in operation.
Keyboard and gang punches illustrating the method of tabulating by the Hollerith Electrical System.
83. **Census reports.**
Three cases containing volumes of censuses from 1790 to 1880 inclusive.
Reports of census from 1790 to 1890.

UNITED STATES GEOLOGICAL SURVEY.

84. **Rocks and fossils.**
A collection, illustrating the geological column in the United States.
85. **Minerals.**
86. **Miscellaneous fossils.**
87. **Fossil plants.**
88. **Rocks and minerals from the Yellowstone National park.**
89. **Surveying instruments.**
90. **Dinoceras mirabile.**
Papier mache restoration of a skeleton.
91. **Publications of the United States Geological Survey.**
92. **Geological and topographical relief maps.**
Arkansas drainage basin.
Baltimore and vicinity.
Cinder Cone and Cinder Cone dissected.
Coon Butte.
Crater lake.
Curved model of the United States.
Elk mountains.
Grand cañon of the Colorado.
High plateaus of Utah.
Irrigated fields.
Leadville.
Leadville dissected.
Mount Shasta, geology.
Mount Shasta, topography.
Mount Taylor.
North-east Iowa.

**Exhibit
No.**

- Twin lakes.
- Uintah and Wasatch mountains.
- Washington and vicinity.
- Yellowstone National park.
- Yosemite valley.
- 93. Rocks containing large slabs of fossil leaves, ripple marks, etc.
- 94. Proofs of illustrations from the publications of the United States Geological Survey.
- 95. May exhibit of the United States Geological Survey.
- 96. Photographic exhibit of the United States Geological Survey.
- 97. Photographic transparencies showing geological scenery.

ALASKAN EXHIBIT.

- 98. **Ethnology—2,700 specimens.**
 - Basketry and mats.
 - Canoes, six full size specimens,
 - Clothing.
 - Fishing implements.
 - Household implements.
 - Hunting implements.
 - Industrial arts.
 - Ornaments.
 - Sleds, three specimens.
 - War implements.
- 99. **Fish.**
 - Sixty-seven varieties.
- 100. **Furs.**
 - Twenty specimens, representing all fur bearing animals of Alaska
- 101. **Minerals.**
 - Specimens from about twenty-five mines.
- 102. **Pictures.**
 - Original water color sketches of flora, glaciers, natives and scenery.
- 103. **Woods.**
 - Sections of trees, six specimens.

SEQUOIA NATIONAL PARK, CALIFORNIA.

- 104. **Big tree.**
 - Section thirty feet in length cut from Sequoia Gigantea "General Noble." This section was cut from the tree about twenty feet from its base. The tree was three hundred feet in height. Its diameter at the base twenty-six feet; and its circumference eighty-one and a half feet.
- 105. **Photographs of scenery in the big tree country, and of scenes during the cutting, handling and shipping of the section on exhibition.**

DEPARTMENT OF JUSTICE.

Exhibit No.

1. **Portraits of attorneys-general of the United States.**
2. **Portraits of justices of the Supreme Court of the United States.**
3. **Portraits of reporters of the Supreme Court of the United States.**
4. **Map showing Judicial Circuits of the United States.**
5. **Bowle's new pocket map of the United States, 1783.**
6. **The administrators of the United States Government at the beginning of its second century, Washington, D. C., July 4, 1876.**
7. **Key to the above.**
8. **The administration of the United States Government at the beginning of the 400th Anniversary of the discovery of America, Washington, D. C., October 21, 1892.**
9. **Book Case:**
 - a. Colonial and ancient laws.
 - b. Governor Winslow knocker, owned by Daniel Webster.
10. **Book-case containing Supreme Court Reports from 1790—1892, and Opinions of attorneys-general.**
11. **CASE I—Photographic Fac-similes and Books.**
 - a Washington's announcement that he would meet the Senate, August 21, 1789.
 - b Nomination of Supreme Court and district judges, September 24 1789.
 - c Nomination of district judges and cabinet, September 25, 1789.
 - d Nomination of Oliver Ellsworth to be chief justice of the United States, March 3, 1796.
 - e Speech of Thomas Jefferson to the United States Senate.
 - f Nomination of George Washington to be general and commander-in-chief of the armies of the United States, July 2, 1798.
 - g Nomination of John Marshall to be chief justice of the Supreme Court of the United States, January 20, 1801.
 - h Nomination of members of cabinet and envoys, by John Quincy Adams, March 5, 1825.
 - i Nomination of Roger Taney to be chief justice of the Supreme Court of the United States, December 28, 1825.
 - j Nomination of William Seward to be secretary of state, March 5, 1861.
 - k Nomination of Salmon P. Chase to be chief justice of the Supreme Court of the United States, December 6, 1864.

Exhibit
No.

- l* Laws of the territory of the United States, northwest of Ohio, 1798. Vol. I.
- m* Laws of the territory of the United States northwest of Ohio Vol. II.
- n* Constitution of the United States. Printed 1791.
- o* The Law of Evidence, 1806. Owned by John Marshall.

12. CASE II—Photographic Fac-similes and Books.

- a* Nomination of the cabinet by U. S. Grant, March 5, 1869.
- b* Nomination of Morrison R. Waite to be chief Justice of the Supreme Court of the United States, January 19, 1874.
- c* Nomination of James G. Blaine to be Secretary of the United States, March 5, 1891.
- d* Nomination of General Grant to be General on the Retired List, March 3, 1885.
- e* Nomination of Melville W. Fuller to be chief justice of the Supreme Court of the United States, April 30, 1888.
- f* Memorandum, by Anson G. McCook, Secretary of the United States Senate.
- g* Charter of Harvard College.
- h* Elliott's Journal and Debates. Annotations by Daniel Webster.
- i* Monroe's view of the Executive. Annotations by George Washington.
- j* Debates of the Convention of the Commonwealth of Massachusetts for assenting to and ratifying the Constitution, 1808.
- k* Acts passed at Congress of the United States held in New York, 1789.
- l* Perpetual Laws of the Commonwealth of Massachusetts, 1782.
- m* Laws of Northwest Territory, 1794.

13. CASE III—Photographic Fac-similes and Books.

Plymouth.

- a* Page from Plymouth Record, 1620.
- b* Warrant issued in the name of George I, 1718.
- c* Memorandum of debt signed by Josiah Cotton, 1723.
- d* Warrant issued in the name of George I, 1721.
- e* Orders agreed on by Plymouth Colony, 1623.
- f* Orders agreed on by Plymouth Colony, 1626.
- g* Deed of sale, 1631.
- h* Bargain regarding sale of cow to Miles Standish, 1627.
- i* Charter and Laws of the Colony of New Plymouth, 1669.
- j* Colony Laws of New Plymouth, 1662.
- k* Colony Laws, 1641.
- l* Laws of Colony of New Plymouth, 1653.

Exhibit
No.

14. CASE IV—Photographic Fac-similes and Books.

Salem.

- a* Land Patent of Second Dorchester Company, 1628.
- b* Commission of William III, creating Court of Common Pleas, 1696
- c* Page of First Book of Deeds in Salem Village, 1641—1644.
- d* Last Will and Testament of Roger Conant, 1677.
- e* Last Will and Testament of Roger Conant, concluded.
- f* Grant of Cape Ann District to Dorchester Company, 1623.
- g* Agreement regarding enlargement of the Church in Salem Village 1638.
- h* Laws of the State of Vermont, 1798.
- i* Colonial Laws of Massachusetts, 1672.
- j* Statutes of Vermont, 1791.
- k* Laws of the Province of New Hampshire, 1696—1725.

15. CASE V—Photographic Fac-similes and Books.

Salem.

- a* Page from Witchcraft Records, 1692.
- b* Testimony and examination of Mary Corey, 1692.
- c* Photograph of Painting of "Trial of George Jacobs."
- d* Examination of Rebecca Norse, 1691.

Providence.

- e* Mortgage. Issued 1741.
- f* Bill of Credit, 1715.
- g* Bill of Credit, 1786.
- h* Providence Compact, 1639.
- i* Early Records of Town of Providence, 1671. Vol. I.
- j* Public Law of the State of Rhode Island, 1798.
- k* Early Records of the Town of Plymouth, Vol. II.
- l* Perpetual Laws of the State of New Hampshire, 1788.
- m* Statutes of Vermont, 1788.

16. CASE VI—Photographic Fac-Similes, Books.

- a* Land patent, issued June 1, 1621. Oldest state paper in the United States.
- b* Ancient charter—Plymouth.
- c* Laws of New York, 1789.
- d* Laws of New York, 1786.
- e* Laws of New York, 1791.
- f* Laws of New York, 1775.

17. CASE VII—Photographic Fac-Similes and Books.

Compacts and Charters—

- a* Fundamental orders of Connecticut, 1638.
- b* Mayflower compact, 1620.
- c* Charter of Rhode Island, 1663.
- d* King Charles, charter to Massachusetts Bay, 1629.

Exhibit
No.

- e* William and Mary's charter to Massachusetts Bay, 1691.
- f* Commentaries on Laws of England, 1771.
- g* Laws of Pennsylvania, 1682-1700.
- h* Debates of the constitutional convention of Virginia, 1788.
- i* Debates of the constitutional convention of Pennsylvania, 1788

18. **CASE VIII—Early Books of the United States Laws—**

- a* Laws of Maryland, 1762.
- b* Statutes of limitation, 1760 (belonging to Patrick Henry).
- c* Code of Christian V, 1756.
- d* Laws of New Jersey, 1776.
- e* Laws of New Jersey, 1778.
- f* Laws of New York, 1777.
- g* Laws of North Carolina, 1791.
- h* Laws of New Hampshire, 1797.

- | | | | | |
|----------------|---|-----------------------------------|---|---|
| 19. Case IX. | } | The Hampton L. Carson collection. | { | Artist's proof etching of the framers of the constitution. |
| 20. Case X. | | | | |
| 21. Case XI. | | | | |
| 22. Case XII. | } | The Hampton L. Carson collection. | { | Artist's proof etchings of chief justices and associate justices of the Supreme Court of the United States. |
| 23. Case XIII. | | | | |
| 24. Case XIV. | | | | |
| 25. Case XV. | | | | |
| 26. Case XVI. | | | | |

DEPARTMENT OF AGRICULTURE.

BUREAU OF ANIMAL INDUSTRY.

(To be found in the United States Government Main Building.)

**Exhibit
No.**

1. **Bacteriological laboratory.**
2. **Models, etc., of cars and steamships for transporting live stock.**
3. **Models and specimens illustrating diseases of domestic animals.**
4. **Models etc., illustrative of government inspection of cattle and meat.**
5. **Specimens showing methods of shoeing horses and pathological anatomy of the hoof.**
6. **Bio-chemic laboratory.**
- 6a. **Cultures of bacteria.**
- 6b. **Model of horse showing lesions of glanders and farcy.**
- 6c. **Specimens of the animal parasites.**
- 6d. **Stuffed specimens illustrating "gapes" in chickens.**
- 6e. **Diagrams of bacteria.**
- 6f. **Model of Kansas City stock-yard.**
- 6g. **Model of cattle quarantine hospital at Garfield, N. J.**
- 6h. **Shoes of celebrated trotting horses.**
- 6i. **Globe showing distribution of contagious pleuro-pneumonia.**
- 6j. **Curios removed from the stomachs of cattle.**

DIVISION OF BOTANY.

(To be found in the United States Government Main Building.)

7. **Desert plants, collection of yuccas, cacti, agaves, etc. (Plazza.)**
8. **Grasses and forage plants, collection of.**
9. **Herbarium containing a collection of North American plants.**
10. **Maps showing distribution of certain North American plants.**
11. **Medicinal barks, fibers, roots, etc.**

DIVISION OF CHEMISTRY.

(To be found in the United States Government Main Building.)

12. **Adulterated foods.**
13. **Agricultural chemical laboratory, collection of apparatus employed in.**

DEPARTMENT OF AGRICULTURE.

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Exhibit No.

14. Alcohol, continuous still for recovery of.
15. Cassava (sweet) root, products of.
16. Cotton seed, raffinose from.
17. Oil analysis, collection of apparatus employed in.
18. Soil sampler.
19. Sorghum, products of.
20. Sugar analysis, apparatus used in.
21. Sugar beets and apparatus used in analysis of these.
22. Sugar cane, wax model of.
23. Wines, apparatus for estimation of alcohol in.

DIVISION OF ENTOMOLOGY.

(To be found in the United States Government Main Building.)

24. Entomological apparatus for collecting insects.
25. Entomological apparatus for mounting and preserving insects.
26. Entomological apparatus for rearing insects.
28. Entomological publications of Division Entomology and U. S. Entomological Commission.
29. Insect collection of United States National Museum, sample boxes, systematic series.
30. Insect collection of United States National Museum, sample boxes, biologic series.
31. Insect pests, maps showing distribution of.
32. Insects affecting Solidago, with wax model of plant.
33. Insect charts, illustrating classification.
34. Insects, North American, illustrations of.
35. Insects, anatomical models of.
36. Insects, injurious, charts of.
37. Insects, injurious, important species, with models of plants and insects.
38. Insects, injurious to agriculture, collection of
39. Insecticide apparatus.
40. Insecticides.
41. Silk insects, biologic exhibit of native and foreign species.

OFFICE OF EXPERIMENT STATIONS.

(To be found in the United States Government Main Building.)

42. Card index of agricultural literature, method of preparation.
43. Experiment station record, method of preparation.
44. Library of publications of agricultural experiment stations.
45. Map showing location of agricultural experiment stations in the U. S.

DIVISION OF FORESTRY.

(To be found in the United States Government Main building.)

**Exhibit
No.**

46. Botanical specimens of forest flora of the United States and collection of wood specimens.
47. Chronology of a tree, showing rate of growth.
48. Curios of the forest.
49. Decorative wood work, veneers and pressed wood.
50. European forest management, maps, plans, tools and books illustrative of.
51. Forest literature, collection of.
52. Forestry emblem of American Forestry Association.
53. Growth of trees, sections showing rate of.
54. "Michaux Silva," collection of colored plates of forest flora.
55. Manufactures of wood, collection of.
56. Maps and photographs, showing forest distribution and conditions.
57. Metal ties, and wood saving railway appliances.
58. Pagoda of finished woods and transparencies of veneer sections.
59. Planting tools, collection of.
60. Seeds and seedlings of forest trees, collection of.
61. Tanning industry, illustrated by barks, extracts, tools, etc.
62. Timber tests, specimens tested, apparatus, photographs, drawings, etc.
63. Timber trees, twenty monographs of.
64. Tree planting machine, model of.
65. Turpentine industry illustrated by trees, logs, material, tools and products.

DIVISION OF HORTICULTURE.

66. Economic plants, collection of. (plazza)
67. Photographs of Department Grounds at Washington. (Main building)

DIVISION OF ILLUSTRATIONS.

(To be found in the United States Government Main building.)

68. Drawings used in illustrating department reports.
69. Blocks and proofs, showing methods of reproducing above drawings.

DIVISION OF MICROSCOPY.

(To be found in the United States Government Main building.)

70. Edible and poisonous fungi, models of.
71. Fibres, instruments for testing.
72. Foods, instruments and processes for detecting adulterations in.
73. Fungi, affecting forest trees.

MUSEUM AND OFFICE OF INVESTIGATION.

(To be found in the United States Government Main building.)

74. Cereals:
Collection of samples of corn, wheat, oats, rye, barley and buckwheat.
75. Tobacco:
Collection of foreign and domestic leaf tobacco.

**Exhibit
No.**

Map showing distribution of culture of classes and varieties of tobacco in the United States.

Model of tobacco curing barns.

Model of tobacco plant bed.

76. Wool:

Collection of fleeces of standard breeds of sheep.

Collection of samples of domestic and foreign wools.

77. Silk:

Collection of cocoons, reeled silks and silk stuffs from wild silk worms.

Collection of cocoons, reeled silks and silk stuffs from domesticated silk worms.

Models of apparatus used in silk culture.

Models of silk worms, showing diseases.

78. Cotton:

Bales of domestic and foreign cotton.

Collection of samples of domestic and foreign cotton.

Exchange standards of cotton.

Maps of cotton districts of the United States, Egypt, etc.

Models of cotton presses and compresses.

Photographs, illustrative of cotton culture in the United States.

79. Miscellaneous Vegetable Fibres (Office of Fibre Investigations).

Cane fibres, collection of.

Cocanut, palmetto, and other palm fibers with partial manufactures thereof.

Flax straw, fiber and manufactures, of domestic and foreign origin.

Hemp, hackled fiber and partial manufacture thereof.

Jute and bast fibers.

Leaf and cordage fibers, sisal hemp, bowstring hemp, pineapple, etc. with specimens of manufactures.

Ramie, degummed fiber, manufactures of ramie, domestic and foreign.

80. Miscellaneous.

Collection of historic plows.

DIVISION OF ORNITHOLOGY AND MAMMALOGY.

(To be found in the United States Government Main Building.)

81. Birds injurious and beneficial to agriculture.

82. Mammals injurious to agriculture.

83. Maps of the United States showing distribution of faunal and floral species.

84. Model of the portions of Southern California, Nevada, Arizona and Utah, showing floral and faunal zones.

85. Model of the United States showing floral and faunal zones.

86. Mountain slope, showing distribution of fauna and flora in the Sierras.

DIVISION OF POMOLOGY.

(To be found in the United States Government Main Building.)

Exhibit
No.

- 87. **Collection of edible nuts.**
- 88. **Collection of models of North American fruits.**
- 89. **Maps showing distribution of principal commercial fruits throughout the United States.**
- 90. **Models of strawberry plants, showing method of culture.**
- 91. **Office blanks.**
- 92. **Paintings of fruits.**
- 93. **Photographs of orchards, etc.**

DIVISION OF RECORDS AND EDITING (North Gallery).

(To be found in the United States Government Main Building.)

- 94. **Annual agricultural reports of the Commissioner of Patents, 1841-1861.**
- 95. **Annual reports of the Commissioner of Agriculture 1862-1888.**
- 96. **Annual reports of the Secretary of Agriculture, 1889-1892.**
- 97. **Special reports, bulletins and periodicals of the Department of Agriculture, 1862-1892.**

DIVISION OF STATISTICS.

- 98. **Agriculture statistics, charts and models illustrating.**

DIVISION OF VEGETABLE PATHOLOGY.

(To be found in the United States Government Main Building.)

- 99. **Fungicide machinery, as designed by the Division (Chemical Remedies for Plant Diseases), collection of.**
- 100. **Fungicides, collection of.**
- 101. **Maps of United States, showing existence of fungous diseases of fruits.**
- 102. **Photographs of cultivated plants, showing profitable use of fungicides as remedies for diseases.**
- 103. **Specimens and wax models of plants affected with fungous diseases.**
- 103a. **Apparatus used in the study of plant diseases.**

WEATHER BUREAU.

(Weather Bureau Building, Government Plaza.)

- 104. **Meteorological charts and photographs.**
- 105. **Meteorological instruments.**
- 106. **Weather forecasting.**
- 107. **Weather map printing.**

SMITHSONIAN INSTITUTION AND NATIONAL MUSEUM.

GENERAL EXHIBIT.

Exhibit No.

1. **Photograph of the Smithsonian Institution.**
2. **Photograph of the National Museum.**
3. **Portraits of Secretaries.**
Joseph Henry, Secretary 1846-1878.
Spencer Fullerton Baird, Secretary 1878-1887.
Samuel Pierpont Langley, Secretary 1887.
4. **Publications of the Smithsonian Institution.**
Smithsonian Reports.
Smithsonian Contributions to Knowledge.
Smithsonian Miscellaneous Collections.
Reports of the United States National Museum.
Proceedings of the United States National Museum
Bulletins of the United States National Museum.
Publications of the Bureau of Ethnology.
Publications of the National Academy of Sciences.
Reports of the American Historical Association affiliated with the Institution.
Reports of Scientific Expeditions under the direction of the Smithsonian Institution.
6. **A Screen of Photographs**, illustrating the discoveries of Professor Joseph Henry, including those which led to the invention of the electric telegraph.

HISTORICAL COLLECTIONS.

7. **Portraits of eminent Americans.**
Series of engravings and photographs of eminent Americans, (Deceased) Statesmen, Jurists, Army and Navy officers, Philosophers, Naturalists, Medical Men, Clergymen, Educators, Artists, Authors, Merchants, Philanthropists, etc.
8. **Portraits of members of the National Academy of Sciences.** (Deposited by Dr. Marcus Benjamin.)
9. **Engraved Portraits of Members of the Continental Congress, and of the Federal Convention of 1787.** (Deposited by Albert Rosenthal.)

Exhibit
No.

10. **Medals, illustrative of American History.** (About four hundred and fifty specimens.)
11. **Medals commemorative of Colonial events prior to 1775.**
12. **Medals of the Revolutionary War.**
13. **Collegiate and Ecclesiastical Medals.**
14. **Medals of Eminent Americans.**
15. **Washington Medals.**
16. **Money of the Colonies of the United States.**
Metallic money of the colonies of the United States, prior to the establishment of the United States Mint.
17. **Models of the ships "Mayflower" of the Plymouth Colony, and "Sally Constant" of the Virginia Colony.**
18. **A Series of Water-color Drawings of decorated powder-horns, carried by soldiers of the American Revolution.**
19. **A Series of fac-similes of original drawings and maps made by John Wyth, a member of Sir Walter Raleigh's Colony, on Roanoke Island, in 1585, now in the British Museum, the first delineations by Englishmen of the natives of America showing their customs and costumes.**

KERAMICS.

This exhibit is intended to illustrate the history and development of ceramics (pottery and porcelain) by means of a collection of typical specimens of Japanese ware arranged for purposes of convenience by provinces (except in the case of section 1), as follows:

20. **Ancient Pottery. (No. 1.)**
21. **Province of Hizen.**
 - a* Karatsu ware dating from A. D. 1600 to A. D. 1750 (Nos. 2, 3, 4, 5, 6, 7, and 8).
 - b* Arita ware dating from A. D. 1650 to A. D. 1880 (Nos. 122, 123, 124, 125, 126, 127, 128, 129, 130, 131 and 132).
 - c* Hirada ware dating from A. D. 1800 to A. D. 1850 (Nos. 133, 134, 135 and 136).
 - d* Nangawara ware dating from A. D. 1750 (No. 137).
 - e* Nabeshima ware dating from A. D. 1750 to A. D. 1850 (Nos. 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148 and 149).
 - f* Kakiyemon ware of A. D. 1650 (Nos. 150 and 151).
 - g* Tsryi Gokushin ware of A. D. 1750 (No. 152).
 - h* Kameyama ware of A. D. 1850 (No. 153).
 - i* Bogasaki ware of A. D. 1850 (No. 155).
 - j* Shiraishi ware of A. D. 1850 (No. 154).
22. **Province of Taishiu (Island of Tsushima).**
Tsushima ware of A. D. 1700 (Nos. 9 and 10).
23. **Province of Owari.**
 - a* Seto ware dating from A. D. 1600 to A. D. 1880 (Nos. 11, 12, 13, 14, and 15).
 - b* Horaku ware of A. D. 1850 (Nos. 47 and 48).

Exhibit
No.

24. **Province of Bizen.**
 - a* Bizen ware dating from A. D. 1700 to A. D. 1800 (Nos. 16, 17, 18, 19 and 20).
25. **Province of Omi.**
 - a* Shigaraki ware dating from A. D. 1800 to A. D. 1850 (Nos. 21, 22, 23 and 24).
 - b* Koto ware of A. D. 1850 (No. 161).
26. **Province of Kii.**
 - Zuishi ware of A. D. 1800 (No. 166).
27. **Province of Iga.**
 - Iga ware of A. D. 1850 (No. 25).
28. **Province of Tamba.**
 - Tamba ware of A. D. 1800 (Nos. 26 and 163).
29. **Province of Idzumo.**
 - Idzumo ware of A. D. 1850 (No. 36).
30. **Province of Idsumi.**
 - Idsumi ware of A. D. 1800 (No. 40).
31. **Province of Yamato.**
 - Akahada ware dating from A. D. 1800 to A. D. 1850 (Nos. 37, 38 and 39).
32. **Province of Survo.**
 - Survo ware of A. D. 1850 (No. 35).
33. **Province of Nagato.**
 - Hagi ware dating from A. D. 1750 to A. D. 1850 (Nos. 32, 33 and 34).
34. **Province of Chikuzen.**
 - Takatovi ware dating from A. D. 1650 to A. D. 1850 (Nos. 27, 28, 29, 30 and 31).
35. **Province of Higo.**
 - Yatsushiro ware dating from A. D. 1750 to A. D. 1850 (Nos. 100, 101 and 102).
36. **Province of Satsuma.**
 - Satsuma ware dating from A. D. 1700 to A. D. 1885 (Nos. 90, 92, 93, 94, 95, 96, 97, 98 and 99).
37. **Province of Settsu.**
 - a* Sanda ware of A. D. 1800 (No. 164).
 - b* Kikko ware of A. D. 1850 (No. 46).
 - c* Kosube ware of A. D. 1850 (No. 162).
38. **Province of Iwaki.**
 - Soma ware dating from A. D. 1800 to A. D. 1850 (Nos. 103, 104 and 105).
39. **Province of Kaga.**
 - Kutani ware dating from A. D. 1700 to A. D. 1880 (Nos. 106, 107, 108, 109, 110, 111, 112, 113 and 114).
40. **Province of Ise.**
 - Banko ware dating from A. D. 1750 to A. D. 1885 (Nos. 115, 116, 117, 118, 119, 120 and 121).

**Exhibit
No.**

- 41. Island of Sado.**
Sado ware of A. D. 1850 (No. 160).
- 42. Province of Sanuki.**
Shido ware of A. D. 1800 (No. 165).
- 43. Province of Yamashiro.**
 - a* Rakn ware dating from A. D. 1700 to A. D. 1800 (Nos. 41, 42, 43, 44 and 45).
 - b* Kioto ware dating from A. D. 1650 to A. D. 1887 (Nos. 49, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88 and 89).
- 44. Province of Musashi.**
 - a* Tokio ware dating from A. D. 1850 to A. D. 1890 (Nos. 156, 157, 158, 159 and 167).
 - b* Ota ware of A. D. 1880 (No. 68).

GRAPHIC ARTS.

This exhibit illustrates the reproductive or multiplying arts (or those which produce blocks or plates from which pictures can be printed) and shows their progress from the fifteenth to the nineteenth century by means of early specimens of each of these arts contrasted with later ones; together with a collection of technical specimens, including tools, etc., illustrating the various etching processes as follows:

- 45. Relief Engraving.**
 - a* Woodcuts of the fifteenth and sixteenth centuries (frame 1).
 - b* Wood engraving, by American engravers of the nineteenth century (frame 2).
- 46. Intaglio Engraving.**
 - a* Line engraving of the fifteenth and sixteenth centuries (frame 3).
 - b* Line engraving, by modern engravers (frame 4).
 - c* Etchings of the sixteenth and seventeenth centuries (frame 5).
 - d* Etchings by American artists of the nineteenth century (frame 6).
 - e* Mezzotints (frame 7).
 - f* Dry-points—Aquatints (frame 8).
 - g* Engravings in imitation of crayon drawings—Stippled engravings (frame 9).
- 47. Planography.**
a Crayon lithography (frame 10).
- 48. The Photo Mechanical Processes.**
 - a* Relief processes—Intaglio processes (frame 11).
 - b* Planographic processes—Collographic processes—The Woodburytype (frame 12).
- 49. Color Printing.**
 - a* Color-prints from relief blocks (frame 13).
 - b* Color-prints from intaglio plates (frame 14).

Exhibit

- No.**
- 96. Ceremonial and religious objects of the Eskimo.
 - 97. Eskimo mummies.
Shoshonean family.
 - 98. Costumed figures.
 - 99. *a* The burden bearer.
 - 100. *b* Ute woman and cradle.
 - 101. *c* Comanche boys.
 - 102. Objects representing Shoshonean arts and industries.
 - 103. Ceremonial and religious objects of the Shoshonean tribes.
Siouan family.
 - 104. Costumed figure of Sioux Warrior, "Red Cloud."
 - 105. Costumed figure of Sioux woman, "Rosa."
 - 106. Costumed figure, The Crow Artist.
 - 107. Group. Women dressing hides.
 - 108. Weapons and armor of the Sioux tribes.
 - 109. Objects used in travel and transportation by the Shoshonean tribes.
 - 110. Objects illustrating social relations. Heraldry, painted buffalo robes, etc.
 - 111. Sioux textile work. Quill and bead work.
 - 112. Objects of dress and personal adornment.

SUBSIDIARY EXHIBITS.

Lapidary work of the North American Indians:

- 113. *a* Costumed figure. Zuni drilling a stone.
- 114. *b* The work of the lapidary. (Exhibit prepared by Mr. Joseph D. McGuire).
- 115. *c* Pipes of North American Indians.
- 116. *d* Miscellaneous native lapidary work.
- 117. Decorative figure. Sioux woman on horseback with her family.
- 118. Group. Moki breadmaker and miller.
- 119. Specimens. Illustrating the processes of the various aboriginal arts, arranged according to stocks.

[An extensive collection illustrating the arts of women among savage and semi-barbarous people will be found in the Women's Building.]

PREHISTORIC ANTHROPOLOGY.

Collections of W. H. Holmes, Bureau of Ethnology:

The exhibit under this head deals with man before the dawn of history, and comprises implements, utensils and other objects found in different parts of the world, and recognized as his handiwork.

Objects of the Paleolithic or Chipped Stone Age.

- 120. A series of about sixty objects. Of chipped stone from Europe, Asia and Africa, belonging to the first alluvial or Chelleen Period of the Age, and representing the earliest accepted implements made by man.
- 121. Objects of the second period. Known as Reindeer or Cavern Period.

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- 122. Casts of four prehistoric human skulls.** Neanderthal, Olmo, Engis and Langerie Basse.
- 123. Implements of stone and bone.** From France and England (Cresswell and Kent's Caverns, England; Mousties, Solutrè and La Madelaine, France).
- 124. Objects from the United States,** of the same form as the preceding four in the postpliocene formations and on the surface, and believed by some students to be implements of the same character as those of Europe. (Exhibited for comparison.)
- 125. Objects of the Neolithic or Polished Stone Age,** from the old and new worlds, comprising hammers, cores, flakes, hatchets, scrapers, discs, chisels, poinards and arrow and spear heads—polished and unpolished.
- 126. A collection to illustrate a classification of arrow and spear heads.**
- 127. A series of objects of stone,** including "banner stones," drilled tablets and boat and bird shaped stones, etc., the uses of which are unknown, but which are supposed to have been connected with ceremonies, or used as ornaments or in games.
- 128. Objects of shell, bone and horn.**
- 129. Copper implements and ornaments of America.**
- 130. Gold ornaments of Central and South America.**
- 131. Bronze implements and ornaments from Europe.**
- 132. A collection of ornaments,** knives, hatchets and other objects of jade turquoise, rock-crystal and obsidian, from Alaska, Central and South America, Australia and New Zealand.
- 133. A series of prehistoric Carib implements,** including stone-collars, zemes, stone-masks, clubs, hatchets, etc., from Porto Rico, West Indies.

ABORIGINAL QUARRYING AND MINING.

The collections under this head illustrate the quarrying of stone by the aborigines of the United States, for utensils, pipes, ornaments, etc.; the manufacture of stone implements from flint, chert, novaculite, quartzite and rhyolite; and the mining of copper and mica.

- 134. Exhibit illustrating the ancient quarrying of quartzite boulders** (and the manufacture of implements from them) on Piney Branch, District of Columbia; including a series of specimens, showing processes and progressive steps of manufacture; and photographs, drawings and maps, representing the site and nature of the aboriginal operations, and the method of exploration.
- 135. A group of exhibits illustrating,** by means of specimens, maps, photographs, etc., the quarrying and manufacture of chert in Indian Territory together with a mass of quarry refuse.
- 136. Exhibits representing the novaculite quarries of Garland County, Arkansas,** including a series of hammer-stones.

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- 137. Exhibits representing the flint quarries of Flint Ridge, Licking County, Ohio, and the manufacture of knives, spears and arrow heads.
- 138. An exhibit representing the quarrying and shaping of rhyolite by the ancient inhabitants of Pennsylvania.
- 139. Specimens illustrating the use of flint nodules in implement-making by tribes of Texas.
- 140. Specimens, photographs and maps, showing the aboriginal manufacture of soapstone utensils in the District of Columbia.
- 141. Collections from the ancient copper mines of Isle Royale, Lake Superior, supplemented by photographs, maps and drawings.
- 142. An exhibit representing the sacred pipestone quarries of Southwestern Minnesota.
- 143. A collection representing ancient mica mining in North Carolina.
- 144. Costumed figures—two negro workmen engaged in breaking up and flaking flint.

RELIGIOUS CEREMONIALS.

This exhibit is limited to a selection from the religions of the nations inhabiting the Mediterranean basin, with special regard to the ceremonies as forming the starting point for a comparative study of religions.

The exhibit comprises the following religions: Assyro-Babylonian, Jewish, Mohammedan, Greek, Roman and Oriental Christian.

Assyro-Babylonian Religion.

- 145. Bas-reliefs (casts) representing divinities and worshippers.
- 146. Seals (casts) engraved with representations of mythological and religious scenes.
- 147. Photographs of divinities, and scenes of worship.

Jewish Religion.

- 148. Objects used in the service of the Synagogue.
- 149. Sacred books. Manuscripts of the Law (Pentateuch), of the book of Esther.
- 150. Ornaments, veils and curtains of the Holy Ark, mantles and covers for the law; breastplates, bells, pointers, *tallith* and *Orba Kanfot*.
- 151. Outfit of the worshipper: Prayer, mantle, phylacteries, and prayer books.
- 152. Objects used on sacred occasions.
- 153. Sabbath—Kiddush cloth, habdalah set, lamps.
- 154. Passover—Complete set of the utensils of the passover meal, comprising glasses, dishes, cups, saucers, serviettes and covers. The liturgy of passover evening.
- 155. New Year's day and day of atonement: Cornets (shofars). Liturgies of the Beni-Israel (Jews of Bombay in the Marathi language).
- 156. Feasts of tabernacles: Curtain of booth, palm-branch (*lulab*) and citron (*ethrog*).
- 157. Objects used on special occasions: Circumcision—Knife and cup. Consecration of child. Siyurm. Marriage—wedding rings, marriage con-

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tracts. Omer tablet. Other religious observances. Knife used for slaughtering animals. Hanukah (feast of dedication)—Lamps. Mezuzah—tablet on the door post. Amulets. Mizrach.

- 157a. Graphic illustrations:** Ceremonies and implements of the synagogue. Ceremonies of festal days. Domestic ceremonies. Photographs of synagogues. Photographs of Jewish rabbis. Photographs of Samontan pentateuchs and other Mss.

Mohammedan religion.

- 158.** Objects used in the mosque: Koran, reading stand, crescent, lamps, ewer and basin for ablutions. Dress and paraphernalia of religious persons. Costume of Iman and Dervish. Dervish staff, drum and almo. Vessel, Amulets. Set of photographs of Mecca and the pilgrims. Photographs of Mosques, fountains, religious persons and feasts, and burial places.

Greek religion.

- 159.** Objects of worship. Principal divinities. Minor or secondary deities. Mythological scenes. Religious practice. Festal scenes and processions. Altar and sacrifices. Votive tablets. Sepulchral reliefs. Graphic illustration: Picart plates representing divinities, priests, altars, and other utensils of worship and various religious scenes.

Roman religion.

- 160.** Objects of worship. Principal divinities. Minor or secondary deities. Tombstone.

Oriental Christian religion.

- 161.** Armenian, Coptic, Ethiopian and Greek ceremonial vessels, votives, ikons, manuscripts, etc.

MAMMALS.

The exhibits of Mammals consist of four series of objects as follows:

- 162. A systematic series, consisting of mounted specimens, representing the families of American Mammals. Except in a few cases, all the American genera in each family are represented.**

The families are as follows:

Cebidæ—The American Monkeys. Hapalidæ—The Marmosets. Felidæ—The Cats. Canidæ—The Dogs. Mustelidæ—The Weasels. Ursidæ—The Bears. Procyonidæ—The Raccoons. Otariidæ—The Sea-Lions. Phocidæ—The Seals. Odobaenidæ—The Walruses. Camelidæ—The Camels and Llamas. Bovidæ—The Cattle. Antilocapridæ—The Prong-horn Antelopes. Cervidæ—The Deer. Dicotylidæ—The Pecaries. Tapiridæ—The Tapirs. Trichechidæ—The Manatees. Delphinidæ—The Dolphins. Ziphiidæ—The Bottle-nosed Whales. Physeteridæ—The Sperm Whales. Balaenidæ—The Whalebone Whales. Phyllostomidæ—The Leaf-nosed Bats. Emballonuridæ—The Free-tailed Bats. Vespertilionidæ—The Typical Bats. Talpidæ—The Moles. Soricidæ—The Shrews. Centetidæ—The Tenrecs and

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Almiquis. Sciuridæ—The Squirrels. Haplodontidæ—The Sewellels. Castoridæ—The Beavers. Muridæ—The Rats and Mice. Geomyidæ—The Pouched Gophers. Saccomyidæ—The Pouched Rats. Dipodidæ—The Jumping Mice and Jerboas. Octodontidæ—The Spiny Rats. Hystricidæ—The Porcupines. Chinchillidæ—The Chinchillas. Dasyproctidæ—The Agoutis. Dinomyidæ—(No English name; only one specimen known.) Caviidæ—The Cavies. Lagomylidæ—The Pikas. Leporidæ—The Hares. Myrmecophagidæ—The Ant-eaters. Bradypodidæ—The Sloths. Dasypodidæ—The Armadilloes. Didelphyidæ—The Opossums.

Groups of North American Mammals and single specimens, accompanied by accessories, indicating the natural surroundings of the species.

- 163. A male Pacific Walrus, from Walrus island, Bering sea.
- 164. A group of California Sea-lions from the coast of California.
- 165. Steller's Sea-lions, male and female, from the Privalof islands, Alaska.
- 166. A Sea-otter from Sanak Island, Alaska.
- 167. A family of Badgers from Kansas, with plants and ground-work, representing the natural surroundings of these animals on the plains.
- 168. A group of three Woodland Caribou, from Newfoundland, with accessories representative of the more open portions of that island.
- 169. A group of Barren-ground Caribou from Alaska, on the "tundras," or treeless plains.
- 170. A group of four Rocky Mountain Goats, from Montana and British Columbia, represented as standing on a ledge of a rocky mountain side.
- 171. A group of six Rocky Mountain Sheep, from Wyoming and Montana, represented as climbing about a mountain peak, near the snow-line.
- 172. A group of nine-banded Armadilloes, from Texas, with accessories showing the prickly vegetation of the arid regions.
- 173. A family of Virginia Opossums, showing nest and young.
- 174. Virginia Deer. A scene at the margin of a water-course in Virginia. A group, comprising two bucks, a doe and a fawn, with accessories, consisting of trees and plants characteristic of Virginia, intended to convey an idea of the surroundings in which the Virginia deer was first seen by the European colonists.

A collection of heads of large game of Africa and Asia.

The following species are represented:

- 175. Eland—African.
- 176. Greater koodoo—African.
- 177. Lesser koodoo—African.
- 178. Argali, or wild sheep of Thibet—Asiatic.
- 179. Burhel, or blue wild sheep—Asiatic.
- 180. Thar, or Himalayan wild goat—Asiatic.
- 181. Asiatic ibex—Asiatic.
- 182. Beisa antelope—African

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- 183. Nylghai—Asiatic.
- 184. Clark's gazelle—African.
- 185. Waller's gazelle—African.
- 186. Dorcas gazelle—African.
- 187. Sömmering's gazelle—African.
- 188. Speke's gazelle—African.
- 189. Salt's gazelle—African.
- 190. Sassaby, or hartebeeste—African.
- 191. Jackson's hartbeeste—African.
- 192. Siberian boar—Asiatic.

BIRDS.

The exhibit comprises six classes of subjects, which are arranged in accordance with the plan outlined below.

- 193. Systematic series, showing representatives of all the families of birds occurring in America, as follows:**

Fringiridæ—The Finches. Icteridæ—The Hangnests. Sturnidæ—The Starlings. Corvidæ—The Crows and Jays. Mniotiltidæ—Wood-Warblers. Cœrebidæ—Honey Creepers. Tanagridæ—Tanagers. Hirundinidæ—Swallows. Vireonidæ—Vireos. Laniidæ—Shrikes. Dulidæ—Palm Chats. Ptiloonatidæ—Silky Flycatchers. Ampelidæ—Wax-wings. Cinclidæ—Dippers. Troglodytidæ—Wrens. Certhiidæ—Creepers. Sittidæ—Nuthatches. Paridæ—Titmice. Chamæidæ—Wren-Tits. Sylviidæ—Warblers. Mimidæ—Mocking Thrushes. Turdidæ—Thrushes. Motacillidæ—Wagtails and Pipits. Alaudidæ—Larks. Oxyrhamphidæ—Sharp-bills. Furnariidæ—Oven Birds. Dendrocolaptidæ—Woodhewers. Formicariidæ—Ant Birds. Pteroptochidæ—Tapacolas. Conopophagidæ—Phytotomidæ—Plantcutters. Cotingidæ—Cotingas. Pipridæ—Manakins. Tyrannidæ—Tyrant Flycatchers. Trochilidæ—Humming Birds. Micropodidæ—Swifts. Trogonidæ—Trogans. Picidæ—Woodpeckers. Capitonidæ—Barbets. Rhamphastidæ—Toucans. Galbulidæ—Jacamars. Bucconidæ—Buff Birds. Alcedinidæ—Kingfishers. Momotidæ—Motmots. Todidæ—Todies. Caprimulgidæ—Goatsuckers. Steatornithidæ—Oil Birds. Cuculidæ—Cuckoos. Psittacidæ—Parrots. Bubonidæ—Owls. Strigidæ—Barn Owls. Pandioniidæ—Ospreys. Buteonidæ—Hawks, Kites, Eagles and Vultures. Falconidæ—Falcons. Columbidae—Pigeons or doves. Cracidæ—Curassows. Percididæ—Partridges and Quails. Tetraonidæ—Grouse. Meleagridæ—Turkeys. Opisthocomidæ—Hoatzins. Cathartidæ—American Vultures. Phaethontidæ—Tropic Birds. Fregatidæ—Man-o'-War. Anhingidæ—Anhingas. Phalacrocoracidæ—Cormorants. Sulidæ—Gannets. Pelcaenidæ—Pelicans. Ardeidæ—Hérons. Cochleariidæ—Boatbills. Ciconiidæ—Storks. Plataleidæ—Spoonbills. Ibididæ—Ibises. Phoenicopteridæ—Flamingoes. Anatidæ—Ducks, Geese

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and Swans. Anhimidæ—Screamers. Rallidæ—Rails. Aramidæ—Courlans. Gruidæ—Cranes. Psophiidæ—Trumpeters. Cariamidæ—Cariamias. Eurypgidæ—Sun Bitterns. Œdicnemidæ—Thick-knees. Recurvirostridæ—Avocets and Stilts. Phalaropidæ—Phalaropes. Scolopacidæ—Snipes. Jacanidæ—Jacanus. Hæmatopodidæ—Oystercatchers. Aphriziidæ—Turnstones. Charadriidæ—Plovers. Thinocoridæ—Partridge-plovers. Chionidæ—Sheathbills. Pelecanoididæ—Diving Petrels. Procellariidæ—Petrels. Diomedeidæ—Albatrosses. Laridæ—Gulls and Terns. Rynchopidæ—Skimmers. Stercorariidæ—Skuas. Alcidiæ—Auks. Urinatoridæ—Loons. Heliornithidæ—Sun Grebes. Colymbidæ—Grebes. Spheniscidæ—Penguins. Tinamidæ—Tinamons. Rheidæ—Rheas.

194. A Collection of Humming Birds comprising species of sixty-four genera.

195. A Collection of Birds of Paradise, embracing the following species:
Incomparable Bird of Paradise—*Astrapia nigra*. Spotted Bower Bird—*Chlamydera maculata*. Greater Bower Bird—*Chlamydera nuchalis*. King Bird of Paradise—*Cicinnurus regius*. Magnificent Bird of Paradise—*Diphyllodes magnifica*. D'Albertis's Bird of Paradise—*Drepanornis albertisi*. Grand Promerops—*Epimachus speciosus*. Superb Bird of Paradise—*Lophorina superba*. Black Bird of Paradise—*Manucodia atra*. Caruncled Bird of Paradise—*Paradigalla carunculata*. Greater Bird of Paradise—*Paradisea apoda*. Empress Augusta Victoria's Bird of Paradise—*Paradisea augusta-victoriæ*. Lesser Bird of Paradise—*Paradisea minor*. Raggi's Bird of Paradise—*Paradisea raggiana*. Red Bird of Paradise—*Paradisea sanguinea*. Six-wired Bird of Paradise—*Parotia sefilata*. Gould's Bird of Paradise—*Phonygama gouldi*. Satin Bower Bird—*Ptilonorhynchus violaceus*. Prince Albert's Rifle Bird—*Ptilorhis alberti*. Magnificent Rifle Bird—*Ptilorhis magnifica*. Rifle Bird—*Ptilorhis paradisea*. Wilson's Bird of Paradise—*Schlegelia wilsoni*. Twelve-wired Bird of Paradise—*Seleucides nigra*. Wallace's Standard Wing—*Semioptera wallacei*. Regent Bird—*Sericulus melinus*. Fiery Bird of Paradise—*Zanthomelas ardens*.

196. A collection of Game Birds, including representatives of the following families:

Ducks, Geese and Swans—Anatidæ. Plovers—Charadriidæ. Pigeons and Doves—Columbidæ. Curassows—Cracidæ. Crowned Pigeons—Gouridæ. Mound Fowls—Megapodidæ. Turkeys—Meleagridæ. Guinea Fowls—Numididæ. Bustards—Otididæ. Partridges and Quails.—Perdiciidæ. Pheasants—Phasianidæ. Rails—Rallidæ. Snipe—Scolopacidæ. Grouse—Tetraonidæ. Tinamous—Tinamidæ.

197. A Collection illustrating the confusion caused by the application of the same popular name to different species of birds. The following birds are represented:

Bee Bird, Buzzard, Chimney Swallow, Goldfinch, Jacksnipe, Martin,

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Oortolan, Pheasant, Redstart, Robin, Screech Owl, Tree Sparrow, Woodcock, Blackbird, Carrion Crow, Coot, Jackdaw, Kingfisher, Oriole, Partridge, Quail, Redwing, Rook, Sparrow Hawk, Turtle Dove, Yellowhammer.

Special groups, with artistic accessories, as follows:

North American species approaching extinction:

- 198. Carolina Paroquet.
- 199. Ivory Billed Woodpecker.
- 200. Passenger Pigeon.
To illustrate protective coloration:
- 201. Ptarmigans in Summer.
- 202. Ptarmigans in Winter.
To illustrate remarkable habits:
- 203. Swallow-tailed Kite, feeding.
- 204. Carolina Paroquets, roosting.
- 205. California Woodpeckers and their store house.
- 206. Jacanas, walking on lily-pads.
- 207. Prairie chickens courting.
- 208. Flamingoes and their nests.
- 209. Bower Birds and their play house.
- 210. Crocodile Birds and crocodile.
- 211. Lyre Birds and dancing mound of the male.
- 212. Butcher birds and their larder.

REPTILES AND BATRACHIANS.

213. A systematic series of alcoholic specimens, representing the following families of American Reptiles and Batrachians.

Reptiles.

Crocodiles—family Crocodylidae.

Tortoises—families Chelydridae, Kinosternidae, Testudinidae, Emydidae, Cheloniidae, Dermochelyidae and Trionychidae.

Lizards—families Eublepharidae, Gekkonidae, Anolidae, Iguanidae, Helodermatidae, Anguidae, Anniellidae, Xantusiidae, Teiidae, Scincidae, Bipedidae, Amphisbaenidae.

Snakes—families Typhlopidae, Leptotyphlopidae, Ilysiidae, Boidae, Charinidae, Natricidae, Nothopsidae, Amblycephalidae, Boigidae, Elapididae, Hydrophidae, Crotalidae.

Batrachians.

Salamanders—families Proteidae, Cryptobranchidae, Ambystomatidae, Plethodontidae, Desmognathidae, Salamandridae, Amphiumidae.

Cæcilians—family Cæciliidae.

Sirens—family Sirenidae.

Toads and Frogs—families Bufonidae, Pelobatidae, Hylidae, Cystignathidae, Engystomatidae, Dendrobatidae, Ranidae.

**Exhibit
No.**

214. A group of North American turtles, showing the more prominent types in their natural surroundings.
215. A group of North American poisonous snakes, showing the various forms of dangerous snakes in their natural surroundings.
216. Cast of a Jamaica Boa, representing a type of the arboreal, non-poisonous American snakes.

FISHES.

217. A systematic series of fishes in alcohol, representing the American families, as follows:

Orthogoriscidæ—The Ocean Sun-fishes. Tetrodontidæ—The Swell-fishes. Diodontidæ—The Porcupine-fishes. Ostracionidæ—The Trunk-fishes. Balistidæ—The Trigger-fishes. Hippocampidæ—The Seahorses. Syngnathidæ—The Pipe-fishes. Malthidæ—The Bat-fishes. Lophiidæ—The Anglers. Ceratiidæ—The Small Anglers. Antennariidæ—The Frog-fishes. Soleidæ—The Soles. Pleuronectidæ—The Flounders. Macruridæ—The Grenadiers—Fierasferidæ—The Fierasfers. Ophiidæ.—The Donzellas. Brotulidæ—The Brotulids. Gadidæ—The Cod-fishes. Merlucidæ—The Whittings. Lycodidæ—The Eel Pouts. Ammodytidæ—The Sand Lances. Cryptacanthidæ—The Wry-mouths. Stichiidæ—The Eel Blennies. Xiphidiontidæ—The Butter Eels. Anarrhichadidæ—The Wolf Fishes. Cebedichthyidæ—The Monkey Blennies. Blenniidæ—The Blennies. Opisthognathidæ—The Big-eyed Blennies. Bathachidæ—The Pad-fishes. Leptoscopidæ—The Small Star-gazers. Uranoscopidæ—The Star-gazers. Bathymasteridæ—The Ronquils. Chiasmodontidæ—The Great Swallowers. Thichodontidæ—The Sand-fishes. Gobiessocidæ—The Clinging Gobies. Liparididæ—The Sea Snails. Cyclopteridæ—The Lump-fishes. Callionymidæ—The Dragonets. Gobiidæ—The Gobies. Triglidæ—The Gurnards. Agonidæ—The Alligator-fishes. Cottidæ—The Sculpins. Hemitriptidæ—The Sea Ravens. Scorpenidæ—The Rock-fishes. Chiridæ—The Chiroids. Scaridæ—The Parrot-fishes. Labridæ—The Wrasses. Pomacentridæ—The Demoiselles. Cichlidæ—The Cichlids. Embiotocidæ—The Viviparous Perches. Gerridæ—The Moharras. Polynemidæ—The Thread-fins. Acanthuridæ—The Surgeons. Chætodontidæ—The Bristle-toothed Fishes. Ephippidæ—The Angel-fishes. Xiphiidæ—The Sword-fishes. Trichuridæ—The Cutlass-fishes. Scombridæ—The Mackerels. Carangidæ—The Pompanoes. Coryphaenidæ—The Dolphins. Stromateidæ—The Butter-fishes. Pempheridæ—The Pempherids. Zenidæ—The Dories. Bramidæ—The Hen-fishes. Nomeidæ—The Nomeids. Latilidæ—The Blanquillos. Mullidæ—The Sur-mullets. Holocentridæ—The Squirrel-fishes. Berycidæ—The Berycoids. Sciaenidæ—The Weak fishes. Sparidæ—The Sea Breams. Pimblepteridæ—The Rudder-fishes. Pristipomatidæ—The Grunters. Centrarchidæ—The Sun-fishes. Elasmomatidæ—The Elasmomes. Serranidæ—The Sea Basses. Percidæ—The Perches. Apogonidæ—The Coral Fishes. Centropomidæ—The Sergeant Fishes.

Exhibit
No.

Pomatomidæ—The Blue-fish. Elacatidæ—The Crab-eaters. Priacanthidæ—The Big-eyes. Aphredoderidæ—The Pirate Perches. Sphyrænidæ—The Barracudas. Echeneididæ—The Remoras. Trachypteridæ—King-of-the-Herrings. Atherinidæ—The Silversides. Mugillidæ—The Mulletts. Gasterosteidæ—The Stickle-backs. Aulorhynchidæ—The Flute-mouths. Fistulariidæ—The Trumpet-fishes. Centriscidæ—The Snipe-fishes. Belonidæ—The Silver Gars. Exocoetidæ—The Flying Fishes. Amblyopsidæ—The Cane Fishes. Luciidæ (Esocidæ)—The Pikes. Umbridæ—The Mud-minnows. Dallidæ—Alaskan Black-fishes. Cyprinodontidæ—The Toothed Minnows. Characinidæ—The Characins. Percopsidæ—The Trout Perches. Halosauridæ—The Halosaurids. Chauliodontidæ—The Viper Fishes. Steronptychidæ—The Hatchet-fishes. Stomiatidæ—The Stomiatoids. Scopelidæ—The Luminous Fishes. Synodontidæ—The Lizard-fishes. Argentinidæ—The Smelts. Salmonidæ—The Salmon and Trout. Alepidosauridæ—The Handsaw Fishes. Alepocephalidæ—The Alepocephalids. Hiodontidæ—The Moon-eyes. Albulidæ—The Lady-fishes. Elopidae—Big-eyed Herrings. Chanidæ—The Milk Fishes. Clupeidæ—The Herrings. Dorosomidæ—The Gizzard Shad. Engraulidæ—The Anchovies. Catostomidæ—The Suckers. Cyprinidæ—The Minnows. Sternopygidæ—The Electric Cat-fishes. Gymnotidæ—The Electric Eel. Siluridæ—The Cat-fishes. Loricariidæ—The Mailed Cat-fishes. Symbranchidæ—The Symbranchids. Congridæ—The Conger Eels. Anguillidæ—The Eels. Muraenidæ—The Morays. Nemichthyidæ—The Snipe Eels. Synphobranchidæ—The Synphobranch Eels. Simenchelyidæ—The Pugnosed Eels. Saccopharyngidæ—The Gulpers. Eurypharyngidæ—The Pelican Fishes. Notacanthidæ—The Spring Eels. Amiidæ—The Bow Fins. Lepidosteidæ—The Gar Pikes. Polyodontidæ—The Paddle-fishes. Acipenseirdæ—The Sturgeons. Chimaeridæ—The Chimæras. Myliobatidæ—The Eagle Rays. Trygonidæ—The Sting Rays. Torpedinidæ—The Torpedos. Rairidæ—The Skates. Pristidæ—The Saw-fishes. Squatinidæ—The Angel Sharks. Heterodontidæ—The Port Jackson Sharks. Alopeciidæ—The Thresher Shark. Sphyrnidæ—The Hammer-headed Sharks. Galeorhinidæ—The True Sharks. Spinacidæ—The Dog Sharks. Scymnidæ—The Sleeper Sharks. Petromyzontidæ—The Lampreys. Myxinidæ—The Hag-fishes. Branchiostomatidæ—The Lancelets.

INSECTS.

218. A systematic series, representing the families of American insects.

SUB-KINGDOM ARTHROPODA.

I. Class Pseudarachnida.

Order Pentastomida—Pentastomes.

Pentastomidæ.

Exhibit
No.

Order Tardigrada—Water-bears.

Arctiscidæ.

II. Class Acaroida.

Order Acarina—Mites and Ticks.

Acaridæ. Trombidiidæ. Oribatidæ. Gamasidæ. Hydrachnidæ. Bdellidæ.
Eschatocephalidæ. Argasidæ. Hæmalastoridæ. Ixodidæ. Rhipis-
tomidæ.

III. Class Autarachnida.

Order Araneæ—The Spiders.

Calommatidæ. Theraphosidæ. Hypochilidæ. Filistatidæ. Dysderidæ.
Scytodidæ. Pholcidæ. Drassidæ. Dytinidæ. Urocteidæ. Clubionidæ.
Catadysidæ. Agalenidæ. Dinopidæ. Prodidomidæ. Theridiidæ.
Epeiridæ. Tetragnathidæ. Uloboridæ. Thomisidæ. Sparassidæ.
Lycosidæ. Oxyopidæ. Podophthalmidæ. Ctenidæ. Attidæ.

Order Pedipalpi—Whip Scorpions.

Phrynidæ. Thelyphonidæ. Schizonotidæ.

Order Scorpiones—Scorpions.

Androctonidæ. Pandinidæ. Bothriuridæ.

Order Chelonethi—Pseudo-scorpions.

Cheliferidæ.

Order Solifugæ—Solpugids.

Galeodidæ.

Order Opiliones—Harvest Spiders.

Phalangiidæ. Nemastimidæ. Cosmetidæ. Gonyleptidæ. Sironidæ.
Trogulidæ. Ischyropsalidæ.

IV. Class Malacopoda.

Peripatidæ.

V. Class Meyriopoda.

Order Diplopoda—Galley Worms.

Polyzonidæ. Julidæ. Lysiopetalidæ. Polydesmidæ. Chordeumidæ.
Glomeridæ. Polyxenidæ.

Order Pauropoda.

Eurypauropodidæ. Pauropodidæ.

Order Chilopoda—Centipedes.

Geophilidæ. Scolopendridæ. Lithobiidæ. Sentigeridæ.

VI. Class Insecta.

Order Thysanura—Bristle Tails.

Scolopendrella. Japygidæ. Campodæidæ. Lepismatidæ. Papiriidæ.
Smynthuridæ. Entomybryidæ. Poduridæ. Lipuridæ. Anouridæ.

Order Ephemeroptera—May Flies—Dragon Flies.

Ephemèridæ.

Order Odonata—Dragon Flies.

Libellulidæ.

Order Plecoptera—Stone Flies,

Perlidæ.

Exhibit
No.

Order Platyptera—Biting Lice and White Ants.

Mallophagidæ. Psocidæ. Embidæ. Termitidæ.

Order Dermaptera—Ear-wigs.

Forficulidæ.

Order Orthoptera.

Blattidæ—The Roaches. Mantidæ—The Rear-horses. Phasmidæ—Walking-sticks. Acrididæ—The Short-horned grasshopper. Locustidæ—The Katyids and meadow grasshoppers. Gryllidæ—The Crickets.

Thysanoptera—Thrips.

Tubuliferidæ. Stenoptridæ. Coleoptridæ.

Order Hemiptera—Bugs.

Pediculidæ—The Sucking lice. Coccidæ—The Scale insects. Aleyrodidæ Aphididæ—The Plant-lice. Psyllidæ—The Jumping plant-lice. Mombracidæ—The Tree hoppers. Cicadidæ—Harvest flies. Fulgocidæ—The Lantern flies. Cercopidæ—The Frog-hoppers. Jassidæ—The Leaf-hoppers. Coccidæ—The Water boatmen. Notonectidæ—The Back swimmers. Nepidæ—The Water-scorpions. Belostomatidæ—The Giant Water-bugs. Naucoridæ. Galgulidæ. Saldidæ. Veliidæ. Hydrobatidæ—Water-striders. Limnobatidæ. Emesidæ. Reduviidæ. Nabidæ. Phymatidæ. Aradidæ. Tingitidæ. Acanthiidæ. Capsidæ. Pyrrhocoridæ. Lygaeidæ. Berytidæ. Coreidæ. Pentatomidæ. Cydnidæ. Corimelaenidæ. Scutelleridæ.

Order Neuroptera—Lace Wings.

Sialidæ. Hemerobiadæ.

Order Mecoptera—Scorpion Flies.

Panorpidæ.

Order Trichoptera—Caddis Flies.

Phryganidæ. Limnophthidæ. Sericostomatidæ. Leptoceridæ. Hydro-psychidæ. Ryacophilidæ. Hydroptilidæ.

Order Coleoptera—Beetles.

Anthribidæ, Scolytidæ—Bark-beetles. Calandridæ. Brenthidæ. Curculionidæ—Typical weevils. Otiorynchidæ. Byrsopidæ. Attelabidæ. Rhynchitidæ. Belidæ. Rhinomaceridæ. Stylopidae. Rhipiphoridæ. Meloidæ—Blister beetles. Pyrochroidæ. Anthicidæ. Mordellidæ. Cephaloidæ. Edemeridæ. Nilionidæ. Pythidæ. Melandryidæ. Menommidæ. Lagriidæ. Othniidæ. Cistelidæ—Ægialitidæ. Senebrionidæ. Bruchidæ—Pea-weevils. Chrysomelidæ—Leaf-beetles. Cerambycidæ—Capricorn beetles. Spondylidæ. Scarabæidæ. Lucanidæ—Stag-beetles. Sphindidæ. Cioidæ. Lymexylidæ—Timber beetles. Cupesidæ. Ptinidæ. Cleridæ. Malachidæ. Lampyridæ—Fire-flies. Buprestidæ. Shroscidæ. Elateridæ—The Click beetles. Rhipiceridæ. Dascyllidæ. Heteroceridæ. Parnidæ. Georyssidæ. Byrrhidæ—Pill-beetles. Derodontidæ. Monotomidæ. Trogositidæ. Latridiidæ. Nitidulidæ. Histeridæ. Dermestidæ. Mycetophagidæ. Cryptophagi-

**Exhibit
No.**

dæ. Cucujidæ Hypocephalidæ. Rhyssodidæ. Colydiidæ. Erotylidæ. Endomychidæ—Fungus beetles. Coccinellidæ—The Lady-birds. Corylophidæ. Phalacridæ. Scaphidiidæ. Sphæriidæ. Hydroscaphidæ. Trichopterygidæ. Staphylinidæ—The Rove beetles. Psalaphidæ. Gnositidæ. Scydmaenidæ. Silphidæ—Carrion beetles. Leptinidæ. Rodent parasites. Platypsyllidæ—Beaver parasites. Hydrophilidæ. Gyrinidæ—Whirligig beetles. Dytiscidæ—Diving beetles. Haliplidæ. Amphizoidæ. Carabidæ—Ground beetles. Cicindelidæ—The Tiger-beetles.

Order Siphonaptera—Fleas.

Pulicidæ.

Order Diptera—Flies.

Braulidæ—Bee-lice. Nycteribidæ—Bat-lice. Hippoboscidæ. Phoridæ. Asteidæ. Phytomyzidæ. Agromyzidæ. Oscinidæ. Drosophilidæ. Geomyzidæ. Ephyridæ. Diopsidæ. Piophilidæ. Sepsidæ. Opomyzidæ. Heteroneuridæ. Phycodromidæ. Sapromyzidæ. Lonchæidæ. Trypetidæ. Ortalidæ. Micropezidæ. Psilidæ. Sciomyzidæ. Helomyzidæ. Cordyluridæ. Anthomyidæ. Muscidæ. Sarcophagidæ. Dexidæ. Cæstridæ—Bot-flies. Platypezidæ. Pipunculidæ. Conopidæ. Syrphidæ—Flower-flies. Lonchopteridæ. Dolichopodidæ. Empidæ. Cyrtidæ. Scenopinidæ. Therevidæ. Bombylidæ—Bee-flies. Nemesitridæ. Midasidæ—Robber-flies. Asilidæ—Robber-flies. Apioceridæ. Leptidæ. Tabanidæ—Horse-flies. Acanthomeridæ. Stratyomyidæ. Coenomyidæ. Xylophagidæ. Rhyphidæ. Dixidæ—Crane-flies. Pipulidæ—Crane-flies. Psychodidæ. Orphnephelidæ. Chironomidæ. Culicidæ. Mosquitoes. Blepharoceridæ. Bibionidæ. Simulidæ—Gnats. Mycetophilidæ. Cecidomyidæ—Midges.

Order Lepidoptera—Butterflies and Moths.

Micropterygidæ. Nepticulidæ. Lyonetiidæ. Lithocolletidæ. Elachistidæ. Lavernidæ. Coleophoridæ—Case bearers. Gracilariidæ. Glyphipterygidæ. Gelechiidæ. Chimabacchidæ. Pleutellidæ. Prodoxidæ—Yucca moths. Hyponomeutidæ. Acrolepidæ. Adeliidæ. Tineidæ. Taleporidæ. Anaphoridæ. Choreutidæ. Grapholitidæ. Conchylidæ. Tortricidæ—Bell moths. Orneodidæ—Plume moths. Pterophoridæ—Plume moths. Crambidæ—Snout moths. Galleriidæ—Bee-moths. Phycitidæ—Knot-horns. Pyralididæ. Pyraustidæ. Geometridæ—Measuring worms. Brephidæ. Noctuidæ—Owlet-moths. Thyatiridæ. Hepialidæ—Ghost-moths. Cossidæ. Lasiocampidæ. Bombycidæ—Silkworm-moths. Cliseocampidæ. Hemileucidæ. Ceratocampidæ. Saturniidæ—American silkworm-moths. Platypterygidæ. Lacosomidæ. Notodontidæ. Psychidæ—Bag-worms. Limacodidæ. Lagoidæ. Liparidæ. Arctiidæ. Nyctemeridæ. Cyllopodidæ. Dioptidæ. Lithosiidæ. Nycteolidæ. Heterogynidæ. Pericopidæ. Ctenuchidæ. Pyromorphidæ. Syntomidæ. Agaristidæ. Thyridæ. Zygænidæ. Uraniidæ. Castniidæ.

**Exhibit
No.**

Sesiidæ. Sphingidæ—Hawk-moths. Hesperidæ—Skipper-Butterflies. Papilionidæ. Lycænidæ—Blues, Coppers and Hair-streaks. Erycinidæ. Nymphalidæ—The Brush-footed butterflies.

Order Hymenoptera—Bees, Wasps and Ants.

Tenthredinidæ—Saw-flies. Uroceridæ. Oryssidæ. Cephidæ. Cynipidæ—Gall-wasps. Evaniidæ. Trigonalidæ. Ichneumonidæ—Ichneumon-flies. Stephanidæ. Braconidæ. Chalcididæ. Mymaridæ. Proctotrypidæ. Pelecinidæ. Chrysididæ—Cuckoo bees. Formicidæ—Ants. Odontomachidæ. Dorylidæ. Poneridæ. Myrmicidæ. Mutillidæ. Thynnidæ. Scoliidæ—Digging wasps. Sapygidæ. Pompilidæ. Sphecidæ. Ampulicidæ. Larridæ. Bembecidæ. Nyssonidæ. Philanthidæ. Mimesidæ. Mellinidæ. Pemphredonidæ. Crabronidæ. Masaridæ—Solitary wasps. Eumenidæ—Solitary wasps and mud wasps. Vespidæ—Social Wasps and Hornets. Andrenidæ—Solitary bees. Apidæ—Bees.

INVERTEBRATES.

A synoptic series, showing by means of specimens, models, drawings and explanatory labels, important forms and anatomical details of the orders of invertebrates, contained in the groups Protozoa, Porifera, Cœlentera, Vermes and Echinodermata.

219. Marine Invertebrates.

A systematic series of specimens of marine invertebrates in alcohol, including representatives of the following classes:

Spongia—Sponges. Anthozoa—Coral Polyps. Polygomedusæ—Hydrozoa. Crinoidea—Sea Lilies. Asteroidea—Star Fishes. Echinoidea—Sea Urchins. Holothuroidea—Sea Cucumbers. Annelida—Worms. Crustacea—Crabs, Shrimps, etc. Brachyzoa—Moss Animals. Tethyodea—Ascidians. Arachnida—Sea Spiders.

220. A collection of marine invertebrates in alcohol, from the Bay of Naples, received from the Naples Zoological Station.**221. Mediterranean Octopus—A group, with accessories, representing the Octopus in its natural surroundings.****Comparative Anatomy and Related Subjects.**

The exhibit includes seven series of specimens as follows:

Homologies of the principal bones in the various classes of vertebrates.

General Homologies.

222. Mounted skeletons of man and horse with corresponding bones labeled.**223. Mounted and disarticulated skeletons of cat, crow, turtle, lizard, frog and fish, with principal bones labeled.**

Homologies of principal bones of the skull.

224. Crania of sturgeon, gar pike, grouper, menpoma, frog, boa constrictor, turtle, alligator, penguin, goat and puma, with corresponding bones colored alike.

Homologies of bones of the extremities.

Exhibit

No.

225. **Fore and hind limb of grouper**, sea turtle, alligator, eagle and dog with corresponding bones bearing similar numbers.
226. **Manus and pes of horse**, camel, bison, moose, tapir, bear, lion and seal with corresponding bones numbered alike.
Modifications of the limbs for locomotion.
227. **Extremities of fish**, sea turtle, manatee, cormorant, great auk, sloth, bat, monkey and man.
Location, structure and growth of teeth.
228. **Series of crania**, teeth, and sections of teeth.
Structure and growth of horns.
229. **Series of horns and sections of horns** of solid and hollow horned animals.
Structure of the long bones.
230. **Series of bones bisected** to show the solid or hollow character of the long bones of various animals.
Structural variations of domestic animals.
231. **Skulls of various breeds of dogs** showing cranial variation.
232. **Skeletons of several breeds of dogs** showing differences of size and proportion.
Anatomy, Embryology and variation of the domestic fowl.
Embryology.
233. **Model showing genital organs** of hen.
234. **Sixteen models** showing various stages in the development of the chick.
Anatomy.
235. **Skeletons of two breeds** of domestic fowl.
236. **Model showing muscles**, blood vessels and viscera of fowl.
Variation.
237. **Specimens of wild jungle fowl.**
238. **Specimens** showing a few of the variations in size and color of modern breeds of the fowl.
239. **A series of specimens and models** representing the chemical elements and compounds of the human body.

MISCELLANEOUS ZOOLOGICAL EXHIBITS.

240. **Variation under domestication** as illustrated by the domestic pigeon, being a group of thirty-four specimens, including the Wild Rock Pigeon, and examples of the principal breeds of domestic pigeons, as follows:
Pouters.
Red Pouter. Blue Pouter. Isabella Pigmy Pouter.
Carriers.
Black Barb. Dun Carrier. Blue Rock Carrier.
Tumblers.
Booted, white English Fantail. Blue-tailed Turbit. Yellow-winged Turbit. Yellow, shell-crested Turbit. White Owl. Turbiteen. Black Tumbler. Red Parlor Tumbler. Black Bald Tumbler. Black Jacobin. Bluette. Satinette.

Exhibit
No.

Trumpeters.

Common Pigeons. Homing Pigeons. Red-winged Swallow. Barred, blue-winged Swallow. Nun. Helmet. Archangel. Ice Pigeon. Black Magpie. Yellow Magpie. Russian Trumpeter.

241. Breeds of the domestic fowl.

American breeds.

Plymouth Rock cock and hen. Black Java cock and hen. Silver Wyandotte cock and hen. Jersey Blue cock and hen.

Asiatic breeds.

Light Brahma, cock and hen. Black Langshan, cock and hen. Partridge Cochins, hen. White Cochins, cockerel.

English breeds.

Silver Grey Dorking, cock and hen. White Dorking, cock and hen. Hamburgs.

Silver Spangled Hamburg, cock and hen.

French breeds. La Fleche, cock and hen.

Games. Red Pile Exhibition, game cock and hen. Maroon game cock.

Domesticated Mammals.

The exhibit includes examples of one or more races of the following domesticated mammals:

242. Dogs.

243. Cats.

244. Mongooses.

245. Genets.

246. Sheep.

247. Goats.

248. Cattle (Zebu, domestic buffalo and ak).

249. Guinea pigs.

250. Rabbits.

ANIMAL PRODUCTS.

This collection is intended to illustrate the utilization of the various parts of the different animals, and the uses of substances derived from the animal kingdom in the arts and industries. It includes the following:

251. Collections showing the utilization of hair, wool, bristles, etc.

252. Feathers, quills and their uses.

253. Fish scales and articles made from them.

254. Tortoise shell and its manufacture.

255. Furs of various kinds.

256. Collection of leathers (including a loan collection of fancy leathers belonging to Tiffany & Co., New York).

257. Horns and antlers and articles made from them.

258. Hoofs and claws.

259. Teeth of various kinds and collections illustrating the uses of different kinds of ivory.

**Exhibit
No.**

- 260. **Whalebone** and its utilization.
- 261. **Bone** and objects made from same.
- 262. **Shell, coral** and objects made from same.
- 263. **Intestines** and their utilization.

PHYSICAL GEOLOGY.

The exhibit illustrates three classes of Geological phenomena, and is arranged in the following manner:

I.—Vulcanology.

- 264. **Map of the world** showing in red the distribution of active and recently extinct volcanoes; compiled mainly from Neumayer's *Erdgeschichte*.
- 265. **Geological map** of the United States showing in red the areal distribution of recent volcanic rocks (and hence of recent volcanoes) in the United States; compiled by Prof. C. H. Hitchcock, in 1886, and published in the Transactions of the American Institute of Mining Engineers.
- 266. **A model of the Ice Spring Craters**, a group of recently extinct volcanoes, near Fillmore, Utah, modeled from surveys made under the United States Geological Survey; scale, 100 feet=1 inch; horizontal and vertical the same; size of model 5 feet square.
- 267. **A large series of photographs** showing characteristic volcanic phenomena as below:
 - Two enlarged views of the volcano on Bogoslof Island, Bering Sea.
 - A series of views of Bogoslof, and Mounts Shishaldin and Makushin in Alaska.
 - A series of views of Hawaiian volcanoes and lava flows.
 - A series of views of Vesuvius, Italy, and the volcanoes of the adjacent islands; including Stromboli, Etna and Vulcano in various stages of volcanic activity.
 - Views of a recent volcanic cone and lava fields near Snag Lake, California.
 - Three views of the grand volcanic neck known as Mato Teepee, Bear Dodge, or the Devil's Tower in Wyoming.
 - Views of Columnar volcanic rocks in the Yellowstone National Park; near Orange, New Jersey, and Bonn, Prussia.
 - Views of geysers and hot springs in the Yellowstone National Park.
- 268. **A series of specimens** of volcanic products in characteristic forms, as lavas, fragmental ejectamenta and sublimation products, as follows:
 - Columnar basalt, Bonn, Prussia, and the Giant's Causeway.
 - Slaggy and glassy lava, Hawaiian Islands and Yellowstone National Park.

*These collections in the cases are accompanied, whenever possible, by photographs of the immediate regions from which they were collected.

Exhibit
No.

Pumiceous and glassy lavas (obsidians), Yellowstone National Park and the Mono craters, California.

Vesicular lava, near Flagstaff, Arizona.

Lava showing the *aa*, *pahoehoe*, and other structures dependent upon their varying degrees of viscosity; lava stalactites and dribble cones from the Hawaiian Islands.

Volcanic bombs from Lipari, Etna, the extinct volcanoes of Mt. Trumbull and Sunset Peak, Arizona.

Lapilli from Ice Springs Buttes, in Utah, and Sunset Peak, Arizona.

Sand and rock fragments, ash, etc., from Bogoslof Island.

Fine pumiceous dust from beds in Montana and Nebraska.

A series comprising forty hand specimens illustrating the various kinds of lavas, and also two large specimens of polished paleozoic lava (felsite) from eastern Massachusetts.

Volcanic sublimation products, including sulphur, ammonium chloride and iron oxides from various American and foreign sources.

Siliceous and calcareous sinters from the geysers and hot springs of the Yellowstone National park, and travertines from extinct hot springs in Arizona.

The possible economy of volcanoes is illustrated in the sulphur and other sublimation products, pozzuolani (a natural concrete) building stone, and the beautiful "onyx marbles" or travertines.

II.—Glaciers and Glacial Phenomena.

269. Views illustrating living glaciers and icebergs.

270. Relief map of the United States showing the theoretical restoration of the ancient ice sheet at the stage of the glacial period following the main silt epoch.

271. A large series of photographs and other illustrations showing characteristic glacial phenomena, as below:

Views of glacial deposits, as moraines, drumlins and kames.

Views of large drift boulders the source of which has been traced with approximate accuracy.

Views of glaciated rock surfaces.

272. Actual specimens illustrating the transporting and eroding power of glaciers, as:

Specimens of glacial clays, sands and drift boulders. Of particular interest in this series are boulders taken from various altitudes in the White and Catskill mountains, and boulders of peridotite and other rocks in Rhode Island, Ohio and Illinois, the original source of which is known, with approximate accuracy.

Scratched and scarred boulders from glacial till.

Scratched and scarred boulders from still existing glaciers.

Glacial flour.

Slabs of stone, grooved, scratched or polished by glacial action.

**Exhibit
No.**

- 273. Glacial pot-hole from Wiscasset, Maine.**
The possible economy of glacial products as shown in the utilization of glacial boulders for building, and the glacial clays for brick making.
- 274. The destructive effects of glaciation,** as illustrated by fields covered by drift boulders and other glacial debris; the stripping of the surface of soils, and the burial of forests. Shown by photographs only.

III.—Limestone Caverns and Associated Phenomena.

- 274a. Actual plans and sections** of Howe's Cave, New York; the Luray Caves, Virginia; Mammoth Cave, Kentucky, and Wyandotte Cave, Indiana.
- 275. A series of photographs** showing cave interiors, as follows:
Howes Cave, New York; The Luray Caves, Virginia; The Grottoes, Virginia; Mammoth Cave Kentucky and Wyandotte and Marengo Caves, Indiana.
- 276. A large series of cave deposits as below.** Many of the stalactites and stalagmites being cut and polished to show structure.
Stalactites and stalagmites from the Luray Caves and the Grottoes, in Virginia.
Gypsum rosettes and encrustations, from Mammoth Cave, Kentucky.
Gypsum encrustations and rosettes; epsom salt, stalactites and stalagmites, from Wyandotte, Indiana.
Stalactites and stalagmites, from Marengo, Indiana.
Stalactites and stalagmites, from the Percy and Robertson Caves, near Springfield, Missouri.
Botryoidal stalactitic masses, from caves in the Organ Mountains, New Mexico.
Stalactites from the Copper Queen Mines, in Arizona.
Large translucent selenite crystals, from a cave in Wayne County, Utah.
The possible economy of cave products is shown by cut, turned and polished blocks of cave marble (stalagmite); nitrous earth, from Mammoth Cave, Kentucky, together with a small viol of calcium nitrate extracted from the same by leaching.
A series of specimens in alcohol, illustrating the fauna of caves.
A small series of photographs, bone breccia and flint chips, illustrating the occupancy of caves by human being.
A section of a cave, some 2x4 feet by 2½ feet high, constructed from materials collected in Marengo, Indiana, the materials occupying their original positions, as taken from the cave.

MINERALS.

The exhibit consists of Minerals, Gems and Semi-precious stones, illustrating the principles of crystallography and those physical properties of minerals which apply to the eye.

- 277. Crystallography and the Physical Properties of Minerals.**
A series of crystallized minerals (with the principal forms in models of wood) to illustrate Crystal Form.

**Exhibit
No.**

- A series to illustrate Parallel Growths.
- A series to illustrate the Twinning of Crystals.
- A series to illustrate the Imperfections of Crystals.
- A series of Crystalline Aggregates.
- A series of Pseudomorphs.
- A series to illustrate Structure.
- A series to illustrate Cleavage and Fracture.
- A series to illustrate Diaphaneity, Color and Lustre.
- A Collection of Gems and Semi-precious stones, embracing two series as follows:

- 278. A general series, arranged in the order of their intrinsic value.**
- 279. A series of American Gems and Semi-precious stones.**

UNITED STATES FISH COMMISSION.

SCIENTIFIC INQUIRY SECTION.

Exhibit
No.

1. Laboratories for Marine Exploration.

Illustrations of Zoological Stations—

1. Laboratory at Wood's Holl, Mass., 1875.
2. Laboratory at Wood's Holl, Mass.

2. Exploring Vessels.

Models—

1. Steamer "Albatross."
2. Steamer "Fish-Hawk."
3. Schooner "Grampus."

Illustrations—

1. Steamer "Albatross."
2. Steamer "Fish-Hawk."
3. Schooner "Grampus."

3. Collecting Apparatus.

Nets—

1. Seines.
2. Beam trawls.
3. Towing nets.

Dredges—

1. Naturalist's deep-sea dredge.
2. Naturalist's boat dredge.
3. Benedict rake dredge.
4. Oyster dredge.

Tangles—

4. Accessories for Dredging and Trawling.

Dredge Rope—

1. Steel wire dredge rope. Splices in dredge rope.

Iron Dredge Block.

Sigsbee Accumulator—

Weights for Beam Trawl.

5. Apparatus for Assorting Collections.

Sieves—

1. Rocker sieves.
2. Table sieves.
3. Hand sieves.

Exhibit
No.

6. Apparatus for Preserving Collections.

Tanks—

7. Apparatus for Deep Sea Sounding.

Sounding Machine—

1. Sigsbee sounding machine (model).

8. Apparatus for Physical Observations.

Thermometers—

1. Deck thermometer.
2. Prof. Baird's protected thermometer.
3. Miller-Casella deep-sea thermometer.
4. Negretti & Zambra thermometer.

Thermometer Cases and Accessories—

1. Wooden cases.
2. Brass cases.
3. Reading lens.

Salinometers—

1. Hilgard salinometer.

9. Results of Explorations.

Charts.

Models.

Collections—

1. Marine animals in alcohol.
 - a* Deep-sea animals—Crinoids, corals, crabs, sea pens, star fish, sea urchins, etc., etc.
 - b* Surface animals—Entomostraca, etc., etc., forming food of fish.
 - c* Shallow-water animals—Mollusks, crustaceans, etc.
2. Marine animals dry:
 - a* Foraminifera.
 - b* Sponges.
 - c* Corals.
 - d* Mollusks, etc., etc.
3. Microscopic slides:
 - a* Of fish eggs.
 - b* Of fish embryos.
 - c* Of fish food.
 - d* Of Foraminifera.

FISH CULTURE SECTION.

10. Transportation Apparatus.

Apparatus for collecting and carrying eggs—

Models and specimens: Wroten bucket. Wroten bucket, improved. Collins' can. McDonald's egg-reel. McDonald's crate. McDonald's crate for egg-reel. Atkins' egg box. Green's egg box. Clark's egg case. Clark's white-fish crate. Clark's foreign egg case. Mather transportation box. Taylor's egg transportation can. Trout boxes used in 1872.

Exhibit
No.

11. Apparatus for Transporting Fry.

Models and full-sized apparatus—

a Models: Car No. 1. Clark's transportation can.

b Specimens: Stone's transportation can. Automatic transportation can. Mulertt's transportation can. McDonald's trout can. Zolinsky's carboy. Mortimer's sole aquarium. Carp transportation pail. Carp transportation kettle. Wood bound can, full size. Messenger's complete outfit. Bucksport transportation can. Ferguson's transportation can. Fish commission transportation can. Stranahan transportation keg. Box for native food fishes.

c Accessories: Siphon strainer. Monroe Green's aerator and cooler. Siphon tube, bag and cage. Dip nets of various sizes. Water bucket.

12. Apparatus for Carrying Spawning Fish.

Models and specimens—

a Models: Group of salmon dory cars.

b Specimens: Maitland's salmon car. Seal's transportation tub

13. Hatching Apparatus.

Models and specimens—

a For floating eggs: Chester wave box. Chester semi-rotating hatcher. Chester cod box. Cone with automatic siphon. Stand of cones with automatic siphon. McDonald's cod hatcher. Cod box. McDonald's cod box. McDonald's improved cod box. McDonald's mackerel tubs. McDonald's hatching bucket. Ferguson's submerged bucket.

b For semi-buoyant eggs: Wroten's bucket. Green's shad box. Brackett's shad box. Wright's submerged box. Ferguson's submerged bucket. Mather's shad can. Bell-Mather shad cone. Ferguson's improved cone. Models of cones and buckets. McDonald's Y-shaped box. Bower's V-shaped box. Chase's white-fish jar. McDonald's jar, old style. McDonald's universal hatching jar. Clark's jar. Apparatus used on cars. De Lawder-Wroten shad hatcher.

c For heavy eggs: Garlick's hatching box. Stone's charred trough. Coste's hatching grills. Williamson's hatching trough. Stone's salmon basket. Bucksport hatching trough. Brackett's hatching trough. Holton's hatching box. Clark's hatching trough. Hatching trough with glass strip trays. Mather's hatching trays. Atkins' hatching crate.

14. Rearing Apparatus.

Clark's trout-rearing troughs—

White-fish tanks. Shad tanks.

a Accessories:

Ainsworth's spawning race. Mather's spawning cone. Spawning pans. Spawning buckets. Page's egg scale. Egg funnels for white-fish and shad. Series of nets from Central Station, Washington, D. C. Series of nets from Northville Station, Mich. Series of nets from Battery Station, Md. Nippers, brass and wood. Dippers. Strainer dippers. Hume's

**Exhibit
No.**

spawning box. Rubber boots. Oil clothing. Pan for washing eggs. Salmon dip-net. Tray for washing eggs. Siphon bags. Siphon cages. Siphon tubes. Aquaria.

b Accessories to pond culture: Seines. Dip nets. Farm profit boiler. Meat chopper. Gun. Garden rake.

15. Hatching and Rearing Establishments.*Portraits of Commissioners—*

Spencer F. Baird.

G. Brown Goode.

Marshall McDonald.

a Chart giving names and location of stations and output of each station for fiscal year 1891-92.

b Chart showing work of the commission from 1872 to 1892.

Models of Hatching establishments—

a Hatching houses:

Put-in-Bay hatchery.

Leadville hatchery.

Havre de Grace hatchery.

Gloucester, Mass., hatchery.

b Floating hatchery.

Hatching barge.

Illustrations of hatching stations showing buildings, exterior and interior, methods employed in collecting, hatching, rearing, and distributing fish fry and eggs.

a Green Lake; Grand Lake stream; Bucksport and Craig's Brook, Me.; Gloucester Cod station and Wood's Holl, Mass.; Central station and Fish Commission fish ponds, Washington, D. C.; Battery station, Havre de Grace, Md.; Bryan's Point shad station, Md.; Wytheville station, Va.; Duluth station, Minn.; Alpena and Northville stations, Michigan; Put-in-Bay station, Ohio; The Quincy, Illinois station; Neosho station, Mo.; Leadville station, Col.; Fort Gaston, McCloud and Baird stations, Cal., and Clackamas, Oregon.

b Floating stations:

Hatching barge.

Steamer Fish Hawk.

16. Methods and Results of Fish Culture.*Models—*

Lay figures. Group illustrating shad fishing and spawning. Group illustrating cod fishing and spawning.

Chart showing the effect of fish culture on the shad fishery.

Painted casts of fishes reared by the Fish Commission:

a Brook trout 1, 2, 3 and 4 years old. Von Behr trout, 1, 2, 3 and 5 years old. Loch Leven trout, 1, 2, 3 and 6 years old. Lake trout, 1 and 2 years old. Land-locked salmon 1 year old. Rainbow trout 1 and 2 years old. White fish 5 years old. Carp, tench, goldfish, black bass, etc.

b Alcoholic and brine specimens:

Eggs in different stages. Fry, yearlings and adults.

Protection of Fish—

Assistance in ascending streams:

a Fishway models:

Duncannon fishway. Shaw's spiral fish-way. Swazey's oblique fish-way, old style. Swazey's oblique fish-way, new style. Worrall's expanding sluice fish-way. Worrall's chute fish-way. Brewer's single groove fish-way. Brewer's double groove fish-way. Steck's fish-way. Smith's inclined plane return fish-way. Lawrence fish-way. Holyoke fish-way. Everleth's self-adjusting fish-way. Pike's spiral fish-way. Atkins' spiral fish-way. Bangor fish-way. McDonald fish-way, old style. McDonald fish-way, section 6, Great Falls, Potomac river.

Illustrations:

Photographs: McDonald's fish-way, Fredericksburg, Va.

FISHERIES SECTION.**7. Objects of the Fisheries.***Mammals—*

1. Sirenians.

Manatee (cast).

2. Cetaceans.

a Dolphins:

Common dolphin (cast).

Bottle-nose dolphin (cast).

Blackfish (cast).

Grampus (cast).

Harbor porpoise (casts).

b Sperm whales:

Pygmy sperm whale (cast).

3. Carnivores.

a Earless seals:

Harbor seal (mounted group).

b Eared seals:

Northern fur seal (mounted group).

Steller's sea lion (mounted group).

Birds—

Fish-eating birds, 80 skins.

8. Reptiles and Batrachians.

1. Alligators:

Florida alligator (mounted skin).

2. Turtles and tortoises.

Loggerhead turtle (cast).

Hawk's-bill turtle (mounted shell).

Exhibit
No.

Green turtle (cast).
Soft-shell turtle (cast).
Snapping turtle (cast).
Spotted turtle (cast).

3. Snakes:

Water snake (cast).

4. Frogs:

Bull frog (cast).
Green frog (cast).
Pickerel frog (cast).

Fish—

Casts of 150 species of marine and fresh-water food fishes.

Color drawings of fishes.

Maps showing the distribution of halibut, cod, mackerel and other kinds.

Living marine and fresh water fish in Aquarium.

Invertebrates—

Living sea anemones, star fish, crabs, lobsters, mollusks, algæ, etc., etc., in aquarium.

18. Fishery Apparatus.

Vessels—

1. Models of sloops, ketches, schooners, steamers.
2. Pictures of vessels.
3. Vessel fittings.
4. Instruments of navigation:
Logs, compasses, clocks, etc.
5. Fishermens' clothing, etc.

Boats—

1. Models.
2. Full-sized boats.
3. Pictures.

Canoes—

1. Bark.
2. Skin.
3. Wood.

Nets—

1. Pounds.
2. Weirs.
3. Pots.
4. Seines.
5. Cast-nets.
6. Dip-nets.
7. Trawls.
8. Dredges.

**Exhibit
No.***Lines—*

1. Trawl-lines.
2. Handlines.

Accessories:

Rods, reels, floats and sinkers, gaff hooks, creels, bait boxes,
fly books, etc., etc.

Appliances for Siezing—

1. Rakes.
2. Tongs.
3. Hooks for sponge.

Accessories:

Water glass.

Appliances for Striking—

1. Spears.
2. Lances.
3. Bows (and arrows).
4. Guns.

Lures—

1. Artificial flies.
2. Artificial minnows, frogs, etc.

*Charts of Fishing Grounds—***19. Illustrations of Fisheries.***Fishermen—*

1. Professional.
2. Anglers.
3. Lay figures.

*Fishermen's Dwellings—**Fishing Towns.**Special Fisheries—*

1. Mammals.
2. Reptiles.
3. Fishes.
4. Mollusks.
5. Crustaceans.
6. Sponges.

20. Statistics of Fisheries.

COLONIAL EXHIBIT.

IN ROTUNDA.

Collected by Woman's Columbian Exposition Committee of Massachusetts.

Exhibit
No.

1. **Silver Hilted Sword—**
It was carried by Capt. Moseley during the Revolutionary war.
Loaned and collected by Mrs. J. G. Ireland, Springfield, Mass.
2. **Silver Hilted Sword—**
It was worn by Judge John Hathorne, of Salem, during all the trials of the "Witches" in that city, 1684. Loaned and collected by James L. Little, Brookline, Mass.
3. **Old Drum—**
Which was beaten at the battle of Bunker Hill, June 17, 1775. Loaned and collected by James L. Little, Brookline, Mass.
4. **Spontoon—**
Carried and used by Capt. John Sanford, at the battle of Bunker Hill.
Loaned and collected by Mrs. A. Jones Sanford, Taunton, Mass.
5. **Old Queen's Arm—**
Used at Bunker Hill and during Revolution. Loaned and collected by James L. Little, Brookline, Mass.
6. **Gun—**
Used by Moses Shaw in battles of Revolution, Bunker Hill and Rhode Island. Loaned and collected by Miss M. G. Spaulding, Newburyport, Mass.
7. **Sword—**
Of Lieut. John Hayward, carried at the battles of Concord and Bunker Hill. Loaned and collected by E. A. Barrett, Concord, Mass.
8. **Sword—**
Of Col. James Barrett, commander of American forces at the battle of Concord. Loaned and collected by E. A. Barrett, Concord, Mass.
9. **Sword—**
Of Oliver Wolcott carried in the Revolution. Loaned and collected by Roger Wolcott, Boston, Mass.
10. **Liberty Tree Flag—**
Part of the original flag which waved over the Liberty Tree on Boston Common in 1775. Loaned and collected by John C. Fernald, Boston, Mass.

**Exhibit
No.****11. Musket—**

Made by Col. Seth Pomeroy, used in French and Indian war, Lexington and Bunker Hill and War of 1812. Loaned and collected by Mrs. A. L. Williston, Northampton, Mass.

12. Gun—

Carried by John Salem, a colored man, at the battles of Bunker Hill, Lexington, and with it he shot Maj. Pitcairn. Loaned and collected by S. W. Hayward, Wayland, Mass.

13. Gun—

From Longfellow Homestead, Byfield. Was used in French and Indian war, and at the battle of Lexington. William Longfellow, first of the name, died in French and Indian war. Loaned and collected by Leonard Adams, Byfield, Mass., cousin of the poet.

14. Sabre—

Used by Col. John Brooks, in the Revolution at Ticonderoga. He was afterward Governor of Massachusetts for seven years, from 1816 to 1823 inclusive. Loaned and collected by George Brooks, Brookline, Mass.

15. Sword—

Worn by William Dane at the battle of Bunker Hill, and by his son, Osgood, in the War of 1812. Loaned and collected by Mrs. S. M. Warner, Cambridge, Mass.

16. Cocked Hat—

Worn by Col. Brooks, at Ticonderoga (Gov. John Brooks). Loaned and collected by Henry Brooks, West Medford, Mass.

17. Judy Lamp—

Such as was used in very early colonial periods. Loaned and collected by Mrs. Winslow Warren, Dedham, Mass.

18. Holster Pistol—

Carried by Col. John Brooks at battle of Ticonderoga. Loaned and collected by Henry Brooks, West Medford, Mass.

19. Pistol—

Of John Williams of Deerfield, captured by the Indians, 1704. Loaned and collected by Mrs. J. G. Ireland, Springfield, Mass.

20. Pipe Lighter—

From an old colonial house. Loaned and collected by Miss Mary G. Spaulding, Newburyport, Mass.

21. Green Silk Umbrella—

First one imported to this country by ancestors of Gen. Benj. Lincoln. Loaned and collected by Miss S. E. Willard, Hingham, Mass.

22. Potato Grater—

One hundred and fifty years old. Loaned and collected by Mrs. J. G. Ireland, Springfield, Mass.

23. Muster Roll—

Of company in His Majesty's service at Fort Drummer under command of Capt. Timothy Dwight, May, 1736. Captain, afterward Col., Dwight's

**Exhibit
No.**

- grandson, was first vice president of Yale College. Loaned and collected by Mrs. E. C. Smythe, Andover, Mass.
24. **New England Weekly Journal—**
Published in 1726, containing items of "Slaves for Sale." Loaned and collected by Mrs. Jonas H. French, Boston, Mass.
25. **Shoe and Clog—**
Worn by Mrs. John Foye, of Boston, 1730. Loaned and collected by Mrs. H. A. Hill, Belmont, Mass.
26. **Thanksgiving Proclamation—**
Issued by Lieut.-Gov. Phipps, October 10, 1731. Manuscript letter written on back and margin, to Sir Wm. Pepperill from Jonathan Edwards. Loaned and collected by Mrs. E. C. Smythe, Andover, Mass.
27. **Boston News Letter—**
Issue of Monday, April 17, 1704. Loaned and collected by Miss E. E. Loring, Boston, Mass.
28. **Pitch Pipe—**
Used in a Massachusetts choir before the times of tuning forks. Loaned and collected by E. H. Hewins, Boston, Mass.
29. **Bayonet—**
Dug up by a workman on the battle field of Bunker Hill. Loaned and collected by Miss S. M. Warner, Cambridge, Mass.
30. **Foot Stove—**
Used in New England in colonial times. Carried to church. Loaned and collected by Edmund H. Hewins, Boston, Mass.
31. **Coat and Vest—**
Worn by Gov. John Brooks when colonel at Ticonderoga. Loaned and collected by H. C. DeLong, trustee of Medford Town Library.
32. **Buckskin Breeches—**
Worn in the Revolution by Maj. Allan Goodwin, who killed the buck, tanned the hide, made and wore the breeches. Loaned and collected by Mrs. Horace Goodwin, Boston, Mass.
33. **Powder Horn—**
Used by one of Capt. Parker's men at Lexington. Loaned and collected by Rev. E. G. Porter, Lexington, Mass.
34. **Powder Horn—**
Formerly belonging to John Williams, of Deerfield, captured by the Indians, 1704. Loaned and collected by Mrs. Roger Wolcott, Boston, Mass.
35. **Tomahawk—**
Carried by Geo. Alverson in the Revolution. Loaned and collected by Selectmen of Oxford, Mass.
36. **Pewter Mug—**
One hundred and fifty years old. Loaned and collected by Mrs. S. D. Elliott, Taunton, Mass.

**Exhibit
No.****37. Pewter Tankard—**

From Old Eagle Inn in Rowley, Mass., where it stood on a public table for many years, 1795. Loaned and collected by James L. Little, Brookline, Mass.

38. Pewter Mug—

This was used in 1774. Bought at auction sale at Hancock House over seventy years ago. Loaned and collected by Mrs. Calvin G. Page, Chestnut Hill, Mass.

39. Pewter Plate—

Formerly owned by Samuel Chase, a signer of the Declaration of Independence. Loaned by his great granddaughter. Loaned and collected by Miss M. B. Spaulding, Newburyport, Mass.

40. Porringer for Invalid—

Drinking vessel used for an invalid one hundred years ago. Loaned and collected by Mrs. S. D. Elliott, Taunton, Mass.

41. Pewter Sugar Bowl—

Used in 1760. Loaned and collected by Miss Julia Goddard, Brookline, Mass.

42. Pewter Coffee Urn—

Used in 1760. Loaned and collected by Miss Julia Goddard, Brookline, Mass.

43. Pewter Cream Pitcher—

Used in 1760. Loaned and collected by Miss Julia Goddard, Brookline, Mass.

44. Pewter Porringer—

One hundred years old. Loaned and collected by Mrs. S. D. Elliott, Taunton, Mass.

45. Venison Blazer—

Formerly owned and used by John Hancock. Loaned and collected by Mrs. Barrett Wendell, Boston, Mass.

46. Silver Candle Stick—

Used in the old Hancock House. Loaned and collected by Miss C. T. Lawrence, Stockbridge, Mass.

47. Silver Pitcher—

Presented to Commodore Perry by the citizens of Boston. Inscription reads: "Commodore O. H. Perry" conquered the enemy on Lake Erie Sept. 10, 1813. Loaned and collected by T. S. Perry, Boston, Mass.

48. Silver Candle Stick—

Used in the old Hancock House. Loaned and collected by Miss C. T. Lawrence, Stockbridge, Mass.

49. Silver Candle Stick—

Used in the old Hancock House. Loaned and collected by James L. Little, Brookline, Mass.

**Exhibit
No.****50. Silver Tankard—**

Over a hundred years old. Loaned and collected by Nathan Appleton, Boston, Mass.

51. Silver Candle Sticks—

Used in the old Hancock House. Loaned and collected by James L. Little, Brookline, Mass.

52. Silver Mug—

Marked E. W. for Edward Warren, brother of Gen. Joseph Warren. Loaned and collected by Mrs. W. W. Vaughan, Boston, Mass.

53. Silver Sugar Bowl—

Formerly owned by Lady Arabella Johnson who came over in the Mayflower. Loaned and collected by Miss M. G. Spaulding, Newburyport, Mass.

54. Silver Mug—

Formerly owned by Rev. Roland Cotton, of Sandwich. Born in 1657. Grandson of Rev. John Cotton. His wife Elizabeth, born in 1668, was a granddaughter of Sir Richard Saltonstall. Loaned and collected by Henry Brooks, West Medford, Mass.

55. Silver Salt Cellar—

Owned by Mary Chilton. First woman who stepped on Plymouth Rock. Loaned and collected by Mrs. H. A. Hill, Belmont, Mass.

56. Silver and Copper Hot Water Urn—

Used in old colonial days. Loaned and collected by Mrs. Wm. G. Prescott, Pepperill, Mass.

57. Silver Breast-Plate—

Made and worn by Maine Indians to protect the heart from arrows, early in the last century. Loaned and collected by Henry H. Edes, Boston, Mass.

58. Silver Mug—

Which once belonged to George Washington. Loaned and collected by Mrs. Geo. W. Hammond, Boston, Mass.

59. Silver Loving Cup—

Age unknown but dates to the time of Cromwell. Brought from England by John Davenport, 1639, and used as a communion cup in Long Meadow. Loaned and collected by Mrs. J. G. Ireland, Springfield, Mass.

60. Silver Mug-Tankard—

Belonged to Gov. Roger Wolcott, second in command at the siege of Louisburg. He was called the "Chaucer of Connecticut." Loaned and collected by Roger Wolcott, Boston, Mass.

61. Silver Spoon—

Made in Boston in colonial days. Loaned by a descendant of Elder Brewster. Loaned and collected by Mrs. D. B. Hallett, Boston, Mass.

**Exhibit
No.**

- 62. Silver Punch Strainer—**
In use from 1790 to 1740. Loaned and collected by Henry H. Edes
Boston, Mass.
- 63. Silver Spoon—**
Owned by Peregrine White. Time of James I of England, 1607. Peregrine White was the first white child born in New England. Loaned and collected by Miss Norcross, Boston, Mass.
- 64. Silver Fork—**
One of the first set of silver forks imported to Boston. Owned and used by Gov. Hancock. Loaned and collected by Mrs. Desmond Fitzgerald, Brookline, Mass.
- 65. Silver Spoon—**
Brought from the battle field of Saratoga by General Learned. Supposed to have belonged to General Burgoyne. Loaned and collected by Selectmen of Oxford, Mass.
- 66. Silver Cake Basket—**
Formerly used by John Hancock in the old Hancock House on Beacon Hill, Boston. Loaned and collected by James L. Little, Brookline, Mass.
- 67. Silver Porringer—**
Made and used by Paul Revere. One of the few with his name on the handle. Loaned and collected by Mrs. Nat. Thayer, Boston, Mass.
- 68. Silver Brazier—**
Owned by Paul Revere. Loaned and collected by Mrs. Fred. R. Jones, New York, N. Y.
- 69. Silver Porringer—**
Presented to Abigail Adams by her aunt on the birth of John Quincy Adams, 1767. Loaned and collected by Chas. F. Adams, Quincy, Mass.
- 70. Silver Tray—**
Presented to Nicholas Lever, as shown by the inscription "Donum Pupillovum, 1724," when tutor at Harvard college. Loaned and collected by Mrs. A. D. Lever, Boston, Mass.
- 71. Piece of Plymouth Rock—**
In silver casket. Loaned and collected by Mrs. Samuel Spaulding, Hingham, Mass.
- 72. Silver Shoe Buckles—**
Worn by Maj. Samuel Thaxter, 1755. Loaned and collected by Miss S. B. Willard, Hingham, Mass.
- 73. Sugar Tongs—**
Over one hundred years old. Loaned and collected by Mrs. Horace Goodwin, Boston, Mass.
- 74. Silver Spoon—**
Two hundred years old. Loaned and collected by Miss Edith Lovering, Taunton, Mass.

**Exhibit
No.****75. Silver Spoons—**

Belonged to George Washington. Loaned and collected by Mrs. G. W. Hammond, Boston, Mass.

76. Silver Wine Spoon—

In use from 1730 to 1740. Loaned and collected by Henry H. Edes, Boston, Mass.

77. Silver Knee Buckles—

Worn by Maj. Samuel Thaxter, 1755. Loaned and collected by Miss S. B. Willard, Hingham, Mass.

78. Pair of Custard Cups—

With crest of Cincinnati Society. Belonged to Maj. Samuel Shaw, first secretary of the society and aide-de-camp to General Knox in the Revolution. Loaned and collected by Mrs. C. F. Shaw, Boston, Mass.

79. Red Plush Waistcoat—

Worn by Gov. James Bowdoin, of Massachusetts. Loaned and collected by Miss Leach, Charlestown, Mass.

80. Gold Watch—

Taken from General Dieskau at battle of Rocky Brook near Lake George, 1755, by General Seth Pomeroy. Loaned and collected by Miss Grace S. Parker, Stockbridge, Mass.

81. Leather-covered Watch—

Owned by Dr. Mather Byles, and had descended as an heirloom to him. Loaned and collected by Miss Frances E. Sturgis, Boston, Mass.

82. Watch and Seal—

Formerly owned by John Quincy Adams. Loaned and collected by Brooks Adams, Boston, Mass.

83. Enameled Gold Watch—

Belonged to Mrs. John Adams; was purchased for her in Paris, 1783. Loaned and collected by Chas. F. Adams, Quincy, Mass.

84. Gold Watch—

Belonged to John Adams. Loaned and collected by Brooks Adams, Boston, Mass.

85. Gold Ring—

Worn by Governor Hancock when he signed the Declaration of Independence. Loaned and collected by Rev. E. G. Porter, Lexington, Mass.

86. Miniature—

Of General Washington, presented by him to General Cobb of his staff an intimate friend. Supposed to be by Rembrandt Peale. Loaned and collected by Geo. Nixon Black, Boston, Mass.

87. Miniature—

Of Frances, wife of Colonel Crafts and sister of Governor Gore. Loaned and collected by Miss S. P. B. Robbins, Boston, Mass.

Exhibit
No.88. **Miniature—**

Of Col. Thomas Crafts, who was the first one to read the Declaration of Independence from the balcony of the State House in Boston. Loaned and collected by Miss S. P. B. Robbins, Boston, Mass.

89. **Hair Locket—**

Two hundred years old. Loaned and collected by Mrs. Ed. Thorndyke, Cambridgeport, Mass.

90. **Snuff Box—**

Belonged to Mrs. Pulling, of Boston. Her husband, Major Pulling, hung out the lanterns for Paul Revere, in the steeple of the old North Church, 1775, for his famous ride. Loaned and collected by Miss S. B. Willard, Boston, Mass.

91. **Knitting Needle Sheath—**

Worn at a lady's waist early in the last century. These sheaths are very rare. Loaned and collected by Henry H. Edes, Boston, Mass.

92. **Snuff Box—**

Belonged to Mrs. Catherine Barnard in 1797. Loaned and collected by Miss S. B. Willard, Boston, Mass.

93. **Silver Patch Box—**

Used in 1722. Held the fancy cuts of court plaster for a fashionable dame's cheeks. Loaned and collected by Henry H. Edes, Boston, Mass.

94. **Embroidered Waistcoat—**

Wedding waistcoat of Major Shaw, worn at time of Revolution. Loaned and collected by Miss S. P. B. Robbins, Boston, Mass.

95. **New York Evening Post—**

Vol. 3, No. 155, November 17, 1783. Loaned and collected by Elmer E. Young, Boston, Mass.

96. **Bill of Sale—**

Of a negro boy, Tony, Boston, 1735. Loaned and collected by Mrs. H. A. Hill, Belmont, Mass.

97. **Cards—**

Visiting card of Aaron Burr; mourning card of Mr. Jefferson, and cards of invitation from President Washington. Loaned and collected by Mrs. C. H. Toy, Cambridge, Mass.

98. **Autograph Letters—**

First one is from Martha Washington to General Knox; second is from General Knox in answer to Lady Washington. Loaned and collected by Miss Susanna Willard, Boston, Mass.

99. **Invitation—**

To a dance and entertainment at Harvard, given by two members of the graduating class in 1767. Mr. Bernard, one of the hosts, was son of the Royal Governor. Loaned and collected by Mrs. S. V. R. Thayer, Boston, Mass.

**Exhibit
No.****100. Colonial Money—**

Eight dollars in continental money found in the eaves of a house being repaired. House formerly occupied by Richard Mugford, Marblehead. Loaned and collected by Mrs. Isabel Silva, Charlestown, Mass.

101. Manuscript Sermon—

Brief of an installation sermon preached at Stockbridge to the Indians by Rev. Jonathan Edwards, August 8, 1751. Loaned and collected by Mrs. E. C. Smythe, Andover, Mass.

102. Colonial Paper Money—

One-sixteenth of a dollar, 1776; 2s. Boston, 1776, 1s 6d. Boston, 1778; $\frac{1}{2}$ of a dollar, 1776; $\frac{3}{4}$ of a dollar, 1776. Loaned and collected by Dr. Solon Bartlett, Lowell, Mass.

103. Breeches Bible—

Printed in London, 1599; brought to New England in the Mayflower by John Alden, whose property it was. The page containing the records of the births and deaths was kept by him and his descendants up to the present day and generation. Loaned and collected by Dr. Chas. P. Thayer, Boston, Mass.

104. "Body of Divinity"—

Book of sermons written by the first vice president of Harvard college, Samuel Willard. Loaned and collected by Miss B. B. Willard, Bingham, Mass.

105. Latin Grammar—

Belonged to Gen. Joseph Warren when a boy and contains his autograph. Loaned and collected by Henry H. Edes, Boston, Mass.

106. Copy of the Stamp Act—

Formerly owned by Lieut. David Putnam, brother of Gen. Israel Putnam. Loaned and collected by Miss Susan Putnam, Danvers, Mass.

107. Old Pocket Book—

Formerly belonging to Joseph Wright, of Dedham. Loaned and collected by W. H. Tilton, Boston, Mass.

108. "The Rambler"—

The copy owned and used by John Hancock. Published by J. Payne in 1752. Loaned and collected by Mrs. Winslow Warren, Dedham, Mass.

109. Hieroglyphical Bible—

With which the young Puritan was expected to amuse himself Sundays. Loaned and collected by Miss Elizabeth Watson, Boston, Mass.

110. Fife—

Carried on the expedition to Quebec, 1775. Benedict Arnold, commanding. Army encamped at Newburg and there Abraham Dodge went as fifer with this fife, afterward used in Washington's army, 1776. Loaned by his great-grandson.

**Exhibit
No.**

- 111. Old Torch of Birch Bark—**
Carried by Gen. Israel Putnam when he entered the Wolf's Den at Pomfret, Conn., and killed the wolf. Loaned and collected by Mrs. Horace Goodwin, Boston, Mass.
- 112. Tea in Bottle—**
Which was found in the boots of Col. Abner Cheever, of the Boston Tea Party, December 16, 1775, when changing his disguise after the affair was over. Loaned and collected by Dr. D. W. Cheever, Boston, Mass.
- 113. Old Iron Spur—**
Worn by George Washington and given by him to John Quincy Adams, and has been kept in the family ever since. Loaned and collected by Mrs. J. B. Warner, Cambridge, Mass.
- 114. Grenadier's Cap—**
Made in 1773 by Mrs. Sarah Simmons, of Boston. Great-great-granddaughter of John Alden, one of the first settlers who landed at Plymouth. Made with forty more at the same time, for the second company of grenadiers formed in this country. Loaned and collected by Dr. J. G. Warren, Boston, Mass.
- 115. Memorial Handkerchief—**
Spun and woven in honor of engagement of General Washington to Lady Washington. Loaned and collected by Miss L. B. Comins, Jamaica Plains, Mass.
- 116. Pair of Pattens—**
Worn on rainy and muddy days. Loaned and collected by Horace D. Bradbury, Winchester, Mass.
- 117. Pair of Baby's Shoes—**
One hundred and forty years old. Worn by Major Hodijah Baylies, who was an aide-de-camp to General Washington.
- 118. Box and Pair of Scales—**
The box is made of fish skin and contains a pair of scales used for weighing gold during the Revolution. Loaned and collected by Mrs. Horace Goodwin, Boston, Mass.
- 119. Medicine Scales—**
They were used during a very early colonial period. Loaned and collected by Mrs. Wm. Aspinwall, Brookline, Mass.
- 120. Silver Spur—**
Brought from the battle-field of Saratoga by General Learned. Supposed to have belonged to General Burgoyne. Loaned and collected by Selectmen of Oxford, Mass.
- 121. Iron Spur—**
Found embedded in the roadside, nearly opposite the Lexington Common. Supposed to have belonged to an officer engaged in the battle. Loaned and collected by Rev. E. G. Porter, Lexington, Mass.

**Exhibit
No.**

- 122. Canteen—**
Rum canteen taken from a British soldier at Bunker's Hill by Rev. Christopher Bullock, chaplain of a Maine regiment. Loaned and collected by Selectmen of Oxford, Mass.
- 123. Canteen—**
Carried at the battle of Ticonderoga. Loaned and collected by Mrs. J. G. Ireland, Springfield, Mass.
- 124. Iron Pipe—**
Belonged to Miles Standish in 1620. Loaned and collected by Mrs. I. M. R. Severance, New Bedford, Mass.
- 125. Bone Figures—**
Cut from a beef bone with a pen knife, aboard a British prison ship in Boston Harbor by a Revolutionary soldier. They represent George Washington and King Phillip. Loaned and collected by Mrs. H. L. Goodwin, Boston, Mass.
- 126. Pair of Compasses—**
Found in the cellar of Miles Standish's house in Plymouth in 1826. Loaned and collected by Mrs. M. S. Warner, Cambridge, Mass.
- 127. Bullet Mould—**
Used by the women to mould bullets for the soldiers before the battle at Fort William Henry, 1758. Loaned and collected by Miss S. B. Willard, Hingham, Mass.
- 128. Tinder Box—**
From the original furnishing of the Coffin house, built in 1564 by Trustian Coffin, and was the home of Whittier's schoolmaster. Loaned and collected by Miss M. G. Spaulding, Newburyport, Mass.
- 129. Antique Copper Censer—**
Made by the Franciscans who came with Columbus and afterward went to Mexico with Cortez. After the loss of their sacred vessels by the attacks of the Indians, they supplied the loss by converting their copper cooking utensils into the necessary service for the celebration of mass. The above was purchased in 1878 from the Marquis de Mota, a descendant of the Gutierrez family who lived in Mexico from 1550 to 1858. Loaned and collected by Miss E. H. Tower, Boston, Mass.
- 130. Skillet—**
From the old Hancock house. Loaned and collected by Miss Susan Putnam, Danvers, Mass.
- 131. Epaulet—**
Brought from the battle-field of Saratoga by General Learned. Supposed to have belonged to General Burgoyne. Loaned and collected by Selectmen of Oxford, Mass.
- 132. Row of Bullets—**
Cast in a mould owned by Gen. Israel Putnam. Loaned and collected by Miss Susan Putnam, Danvers, Mass.

**Exhibit
No.**

- 133. Cannon Ball—**
Fired at Lexington from one of Lord Percy's field pieces April, 1775, recently plowed up. Loaned and collected by Rev. E. G. Porter, Lexington, Mass.
- 134. Mould for Pewter Spoon—**
It is very old; belonged to ancestors of Maj. Con., Benj. Lincoln. Loaned and collected by Miss A. S. Lincoln, Hingham, Mass.
- 135. Knives and Forks—**
Owned and used by Col. Timothy Pickering during the Revolution. He was afterward secretary of state under Washington. Loaned and collected by Miss S. M. Warner, Cambridge, Mass.
- 136. Autograph Letter—**
From Gen. Lafayette.
- 137. Commission.—**
Of Colonel Prescott. Loaned and collected by Mrs. Wm. C. Prescott, Pepperill, Mass.
- 138. Photographs—**
Of the original charter of the Massachusetts colony. Loaned and collected by Mrs. Roger Wolcott, Boston, Mass.

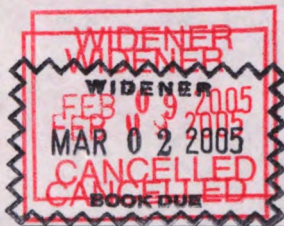


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